HIGHWAY 182
CORRIDOR VIEWSHED PLAN
CHEQUAMEGON NATIONAL FOREST

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3-85

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Title: Highway 182 Corridor Viewshed Plan

Abstract: The value of our roadside corridors for scenic viewing and as a scenic resource continually increases as our society continues to expand in numbers and increase its mobility. Often our rural areas and our public lands become areas in which a certain expectation of scenic quality exists. In public lands such as National Forests a quality of scenic or visual resources has been traditionally expected. The public also expects quantity and quality of other resource values from National Forests, such as clean water, timber, minerals, and wildlife. Demands for other such resources are steadily increasing just as demands for quality visual resources are. The problem that is often faced is that of managing the visual resources in integration with other resource values to meet the various public expectations.

This paper explores and applies a process for determining the visual values and resources of a specific highway corridor in northern Wisconsin on the Chequamegon National Forest. A process is developed that integrates other resources and the direction of the current Forest Land and Resource Management Plan. The process identifies and treats the entire viewing area of the highway (corridor viewshed) as a unified visual entity. Site specific management direction is provided for the resources, resulting in the achievement of a desired visual condition. Specific timber management prescriptions are given for the next 50 years and the expected results of such prescriptions are analyzed.

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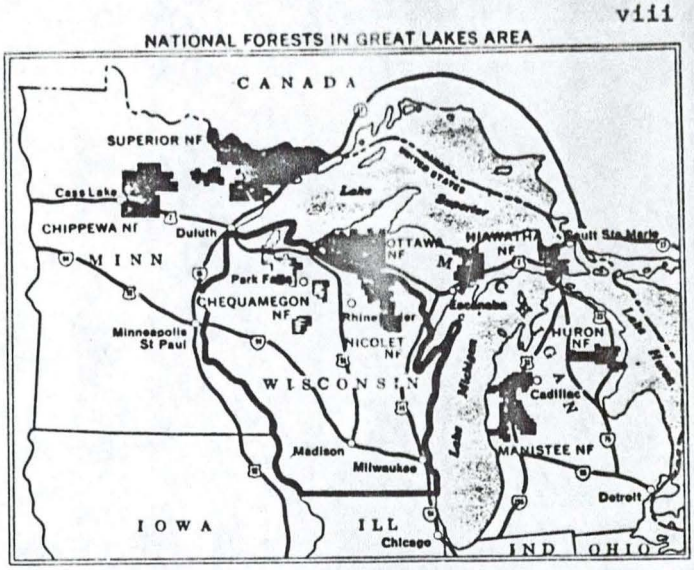
PROJECT LOCATION

This corridor viewshed plan is developed for a 10 mile segment of State Highway 182 located within the boundaries of the Park Falls Ranger District, Price County, Chequamegon National Forest. The highway leads from Park Falls, east-northeast to State Highway 51, a distance of approximately 34 miles. Reference Figure 1 and 2.

CHEQUAMEGON NATIONAL FOREST

VICINITY MAP



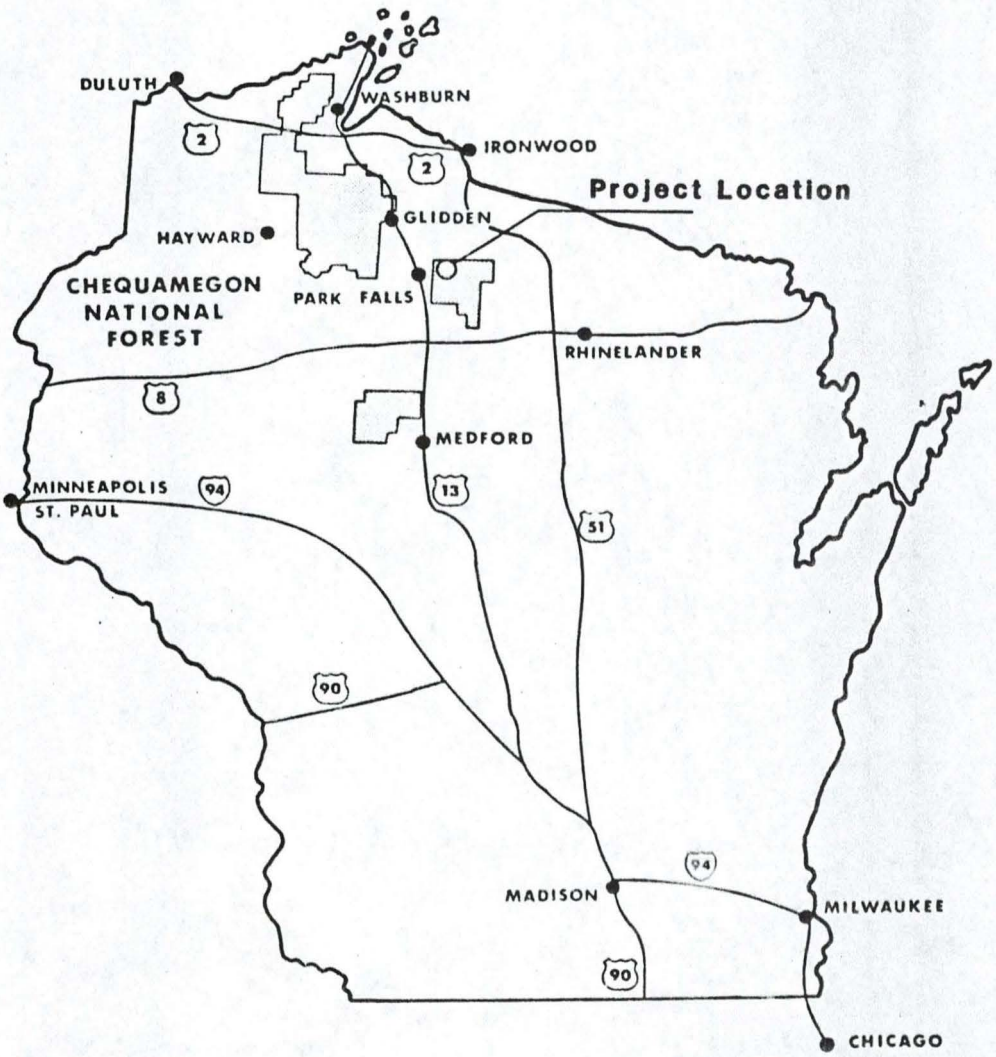


Figure 1

PROJECT LOCATION

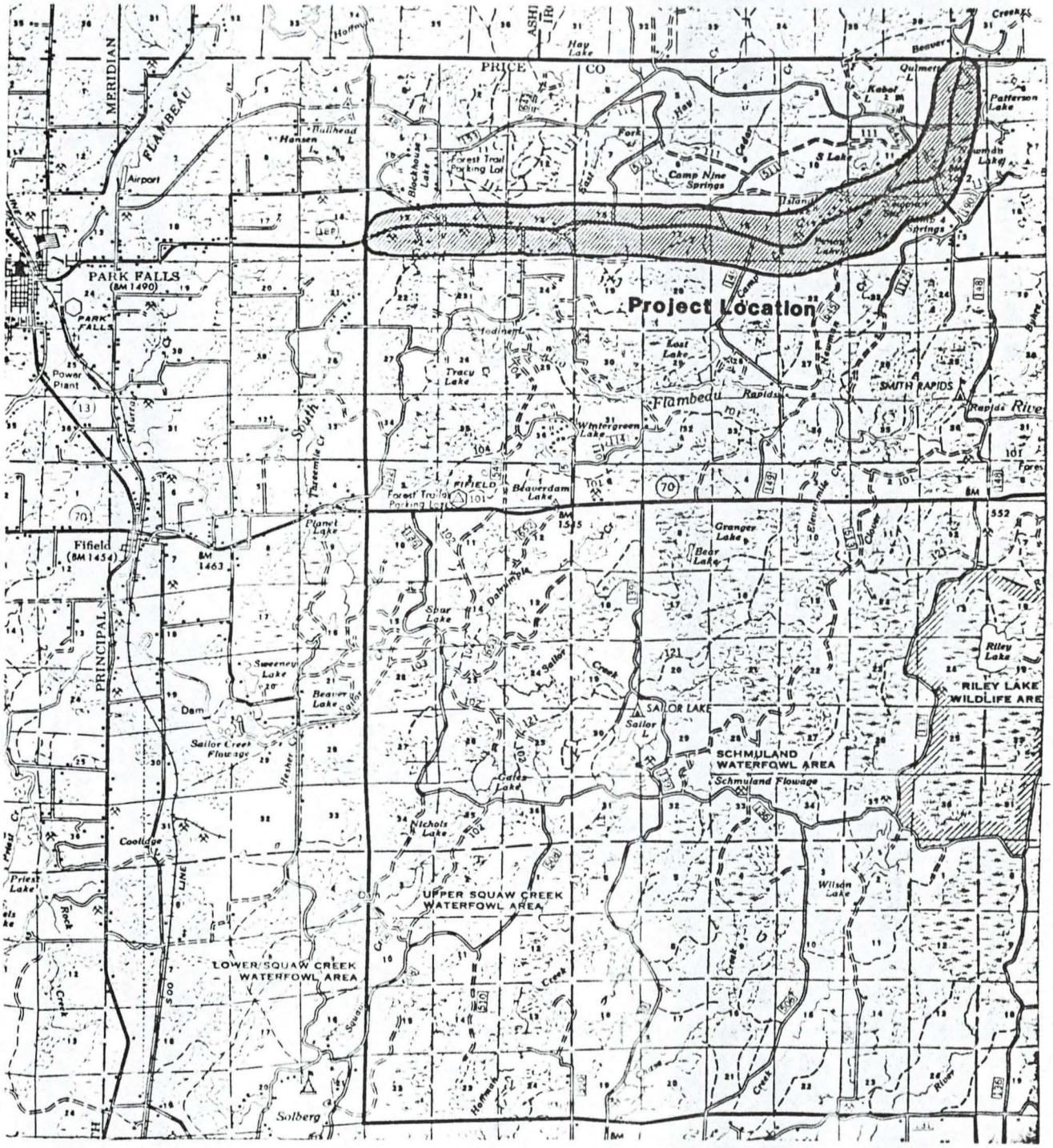


Figure 2

Chapter I

Introduction and Statement of Problem

Viewshed (definition) A viewshed is the total landscape seen or potentially seen from a travel route, use area, or water body. It may include foreground, middleground, and background viewing areas.

The viewshed corridor of State Highway 182 has been identified as an area of high visual sensitivity. This study is to develop a plan for providing management direction for retaining or creating a desired visual character over time and space along Highway 182. A process will be developed that will provide for integrating forest land and resource management direction with the viewshed corridor plan direction. The process developed will be one that can be applied to other viewshed corridors to create a desired visual condition.

Existing Landscape Character

The existing landscape is characterized by flat to gently rolling glaciated terrain bisected by occasional drainages and covered with a variety of vegetatives types. Northern hardwoods, aspen, red pine and jack pine are the dominant forest types. There are numerous lowland wetland, bogs, and open brush areas that provide the spacial diversity of openings. Due to the relatively gentle terrain changes and vegetative cover, the view distance is limited in most areas. Most of the overstory vegetation is of the same size representing a similar age grouping. The effect created is that of walls of vegetation that are occasionally broken spacially by natural openings; the resultant overall impression is that of a narrow corridor effect. Visual

variety is lowest in the area of extensive contiguous plantations of pine. In other areas the diversity of northern hardwoods, aspen, smaller pine stands, other conifers, and interspersed lowlands provide greater visual variety. Cultural impacts on the landscape occur frequently on the intermittent private ownership adjacent to the highway. Most noticeable are year-round and seasonal residences with their various associated outbuildings and structures.

The overall character is that of a young to medium aged forested corridor broken by natural lowland openings and drainages. The corridor has pockets of interspersed residences with associated structures, facilities, roads and powerlines. The setting is typical and characteristic of much of northern Wisconsin.

A. STATEMENT OF THE PROBLEM

Past management has been site specific and has not been oriented to the concept of the entire corridor as a continuous visual experience. Overall impacts of resource management over time and space of the corridor were generally not evaluated. The plan provides specific direction for the management of forest resources along the corridor while achieving a desired visual condition and maintaining a high degree of visual quality. This plan establishes short term and long term desired visual condition for the corridor. Site specific management is planned in the context of the entire corridor as a unified visual entity. Management direction presented is integrated within the framework of the Chequamegon Draft Forest Land and Resource Management Plan.

B. OBJECTIVES

The primary objective is to create and maintain a desired landscape character over time. The desired character will provide the forest visitor with an experience of viewing a natural appearing forested landscape along the travel route.

Specific Objectives

a. Achieve a high degree of visual quality.

b. Create and maintain a diversity of vegetative types.

c. Create and maintain a diversity of age groups within a vegetative type.

d. Create a "big tree" character in areas along the corridor.

e. Provide stand specific prescriptions to achieve the visual objectives, provide for timber resource production, and other multiple use management.

f. Integrate Forest Land and Resource Management Plan direction with corridor viewshed direction.

g. Develop a process that can be applied to other viewsheds to achieve a corridor viewshed plan.

C. PREMISES

There are a number of basic assumptions and premises on which the development of a desired viewshed is based.

1. Expected Images Exist

Many recreation-oriented people visiting the Chequamegon National Forest have expectations of encountering a natural appearing forested landscape. The majority of the recreation-oriented people who visit the National Forests have an image of what they expect to see. Such an image or mental picture is generated by available information concerning a particular area and the person's experience with that or similar areas. The image produced represents the knowledgeability, expectedness, romanticism and emotionalism associated with features within the area. Several images may exist simultaneously within a single individual, and yet a particular geographic region tends to have an identifiable image.

Although studies of people's images of forest areas result in varied responses from one geographic region to another, one factor generally remains constant. People expect to see a natural appearing character within each general region.

2. Diverse Landscape Character is Important

All landscapes have a definable character and those with the greatest variety or diversity have the greatest potential for high scenic value.

Diversity in the natural landscape is an important facet of its visual appeal. Diversity in tree sizes and vegetative species adds to a landscape's character.

The probability of visual appeal is higher for landscapes that are rich in figure object variety than it is for landscapes that tend toward monotony because of their low object variety. Richly diverse landscapes produce more familiar associations and visual stimulation than do landscapes that are comprised of objects whose characteristics are generally similar.

3. The Visual Impact and Character of Management Activities is Critical

The visual impact of management activities increases as the amount of landscape alteration increases. The visual impact of management activities generally increases as the visual elements in the management activity deviate from the same elements in the natural landscape.

4. Viewing Distance is Critical

Visibility and clarity of detail is often a function of viewing distance. The visual impact of management activities usually increases as viewing distance decreases.

5. "Big Tree" Character is Desirable

Large diameter trees resulting from older ages of certain species yield strong positive visual benefits to many people. Mature forest scenes with little or no debris or down material are generally rated higher in visual preference than other forested scenes.

D. DELIMITATIONS

The area of study is limited in most cases to a foreground distance of approximately 1/4 mile on each side of the highway when the viewing distance is restricted by forest vegetation. An assumption is made that in area of forest cover this is the effective potential viewing distance. The assumption is based on the clearcut size limitation being 40 acres which corresponds roughly to a distance of 1/4 mile. In many cases the cut size in foreground areas may be significantly smaller than 40 acres. A 1/4 mile zone should represent the effective view distance in most situations. In cases where vegetative patterns or sight distances require a greater distance to accommodate the foreground viewing area, the width of the corridor may be expanded. Timber stand boundaries were generally used as corridor boundaries unless the stand extended significantly beyond the 1/4 mile distance zone, in which case the viewshed boundary bisected the stand.

This study involves only National Forest Lands and excludes private or state ownership along the corridor. Management prescriptions are given only for National Forest Lands.

E. LIMITATIONS

The existing timber inventory data base (TMIS) was used as the primary source of data concerning the vegetative stands. In some instances the data are somewhat dated and may not reflect the current situation. A field review of the stands within the corridor was completed to verify the data and provide additional current information.

This study projects management prescriptions and goals for timber stands a considerable distance in the future. The study recognizes that the prescriptions are based upon data available at this time. As a stand ages and changes, and complex vegetative, land type and climatic interactions become better known, it may become evident that a prescription set forth may not achieve the desired result. As a result, this study recognizes that modifications and adjustments may be necessary as we increase our knowledge of the complex ecological interactions. Such modifications should be made in to achieve the desired visual condition.

Chapter II

Literature Review

Research and technical literature relating to the project paper were summarized into five broad groups of: Corridor Viewsheds, Landscape Management and Design, Visual Assessment and Esthetics, Forest Documents, and Silvicultural Practices.

Corridor Viewshed - The documents fell into two basic areas: one being specific documents developed as a corridor viewshed plan or general technical documents that addressed general highway esthetics or scenic considerations.

Landscape Management and Design - The majority of the documents in this category consisted of USDA-Forest Service handbooks and the proceedings of a national conference on management of the visual resource.

Visual Assessment and Esthetics - This category is an assembly of various research and technical papers that deal with various aspects of perception and visual esthetics.

Forest Documents - Documents that are specific to the Chequamegon National Forest were organized into this category, most significant being the "Draft Chequamegon National Forest Land and Resource Management Plan."

Silvicultural Practices - The literature review pertaining to management of the vegetative types within the corridor consisted primarily of research papers and technical reports directed to the geographic area of the Lake States or the North Central States.

Specific references can be found in the Bibliography, pages 84, 85.

Chapter III

Procedures

This chapter is a summary of the major aspects of the procedure that was developed for creating a viewshed corridor plan. These procedures can be applied to any viewshed corridor to arrive at a plan and detailed corridor management direction. Reference Page 3 for a diagram of the process.

A. IDENTIFY OBJECTIVES

List the major objectives that are to be accomplished within the corridor. The objectives give a broad framework for the viewshed management direction.

B. DATA INVENTORY, COLLECTION, AND ANALYSIS

1. Visual (macro) - Define the visual corridor boundaries and determine the major visual characteristics using USDA Handbook #462, "The Visual Management System," as a guideline.

   Visual (micro) - Define the existing visual condition in site specific terms. A clear picture of the existing character of the corridor should emerge.

2. Recreation - Inventory and analyze the existing influence and impact of recreation users and facilities.

3. Ecological Classification System - Utilize the inventoried and mapped ECS hierarchical level of greatest detail for the study area. The existing Land Type Association (LTA) inventory was utilized for this corridor plan. The data is overlain and cross referenced with the vegetation data for analysis.

4. Vegetation - Inventory the vegetation using the existing classified timber stands as the primary unit. Extract data for analysis using the existing TMIS (Timber Management Information System) computer data base. Map the timber stands classified by type, stocking, and density within the corridor. The timber stands become the primary working and analysis unit of vegetation. The timber stands should be reviewed and analyzed using aerial photos and field inspection.

C. VIEWSHED PLAN DIRECTION

Direction is extracted from the Draft Forest Land and Resource Management Plan that gives overall direction for management of larger management areas of which the corridor is a part. An inventory should be made of the management area or areas that the corridor falls within. Vegetative, wildlife and recreation goals for these management areas should be stated. The ROS classification and visual quality objective for the corridor should be stated. Timber management schedules for the first decade for the management areas affected should be listed. Analysis area prescriptions should be cross checked with the corridor stand prescriptions.

D. DESIRED CHARACTER

The desired character description is a key component that gives a directional framework for site specific recommendations. Based on the visual analysis and the goals and objectives, develop a desired character description specific to the corridor. The desired character description represents the future or steady state condition which is desired. The desired character is a reflection of site specific visual objectives.

E. CORRIDOR PRESCRIPTIONS

Develop general vegetative type and individual stand prescriptions based on the analysis of the previous data and Forest Plan direction. The stand prescriptions become the means in which an existing condition is moved to a desired condition. Stand boundaries may be adjusted or modified to meet the desired conditions.

F. IMPLEMENTATION

Additional information and direction that assures that the prescription recommendations are integrated into the implementation, segment of the Forest Land and Resource Management Plan.

VIEWSHED PLANNING PROCEEDURE

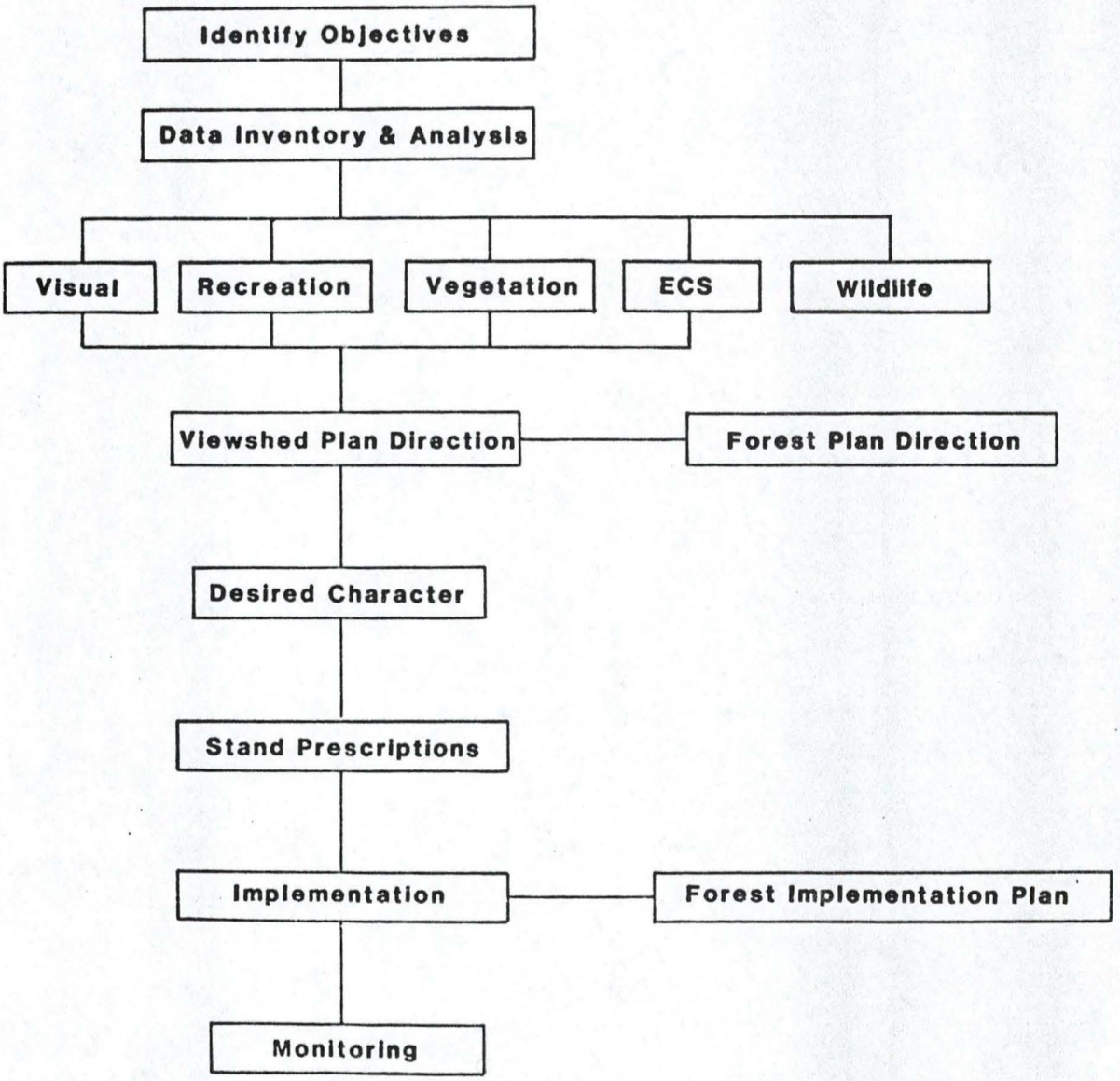


Figure 3

Chapter IV

Inventory and Analysis

The inventory and analysis of data are categorized into two major groups: cultural data and biological data. The cultural data and analysis are centered around the visual and recreation situation. The biological data and analysis concentrate on ecological classifications and vegetative type classifications.

A. CULTURAL INVENTORY AND ANALYSIS

1. Visual (Macro)

This visual analysis provides the basic visual framework for management direction. The basis of the visual inventory is the Visual Management System as developed and utilized by the USDA-Forest Service. The system is detailed in USDA-Forest Service National Forest Landscape Management Volume II, Chapter 1, the Visual Management System, Handbook #462.

Character Type

An area of land that has common distinguishing visual characteristics of landform, rock, formations, water forms, and vegetative patterns is called a character type. Its establishment is based on physiographic sections as defined by Nevin M. Fenneman in Physiography of Eastern United States.

The area of the Chequamegon National Forest lies in the Superior Uplands character type. The Superior Upland, part of the Canadian Shield, was eroded to a plain and the surface modified by continental glaciation. One outcome of the glaciation is that there are more lakes per unit area than in any other part of the United States. Relief is generally 100-300 feet. Vegetation in the northern part is dominated by spruce-fir, aspen, birch, pine, and conifer bog. Vegetation in the southern part is mostly northern hardwoods-fir, northern hardwoods, and pine.

Variety Class

Variety classes are obtained by further classifying the landscape character type into different degrees of variety. This classification is based upon the premise that those landscapes with the most variety of diversity have the greatest potential for high scenic value.

For each character type, variety class criteria are developed for landscape features of landform, rockform, vegetation, and waterform. Cultural effects are also evaluated.

The three basic variety classes are:

Class A - Distinctive

Refers to areas where features of the landscape are of unusual or outstanding visual quality. They are usually not common in the character type.

Class B - Common

Refers to areas where features contain variety in form, line, color, texture, or combinations thereof, but which tend to be common throughout the character type. These landscapes are the benchmark from which distinctive and minimal can be judged.

Class C - Minimal

Refers to areas where features have little change in form, line, color, or texture. Includes all areas not found under Classes A and B.

The variety class criteria for inventorying the Superior Uplands character type are found in Appendix A.

The inventoried variety class for the Highway 182 corridor is Class B - Common.

Sensitivity Level

Sensitivity levels are a measure of people's concern for the scenic quality of the National Forests. Three sensitivity levels are

employed, each identifying a different level of user concern for the visual environment:

Level 1 - Highest Sensitivity

Level 2 - Average Sensitivity

Level 3 - Lowest Sensitivity

The sensitivity level rating for Highway 182 is Level 1, High.

Distance View Zones

Distance zones are divisions of a particular landscape being viewed. Distance relationships can be categorized into three planes based on composition and pictorial description. These are called distance zones and are designated as foreground, middleground and background. The foreground zone is generally 0 - 1/4 mile in depth, the middleground is usually 1/4 - 3 miles and the background is usually 3 miles to infinity.

The majority of the view distance zone of Highway 182 is in the foreground due to the flat to gently rolling terrain. One small area of middleground does occur. Detailed characteristics of foreground, middleground, and background zones are found in Appendix B.

Visual Summary

Character Type	Superior Uplands
Variety Class	B - Common
Sensitivity Level	1 - High
Distance Zone	Foreground with a small area of middleground

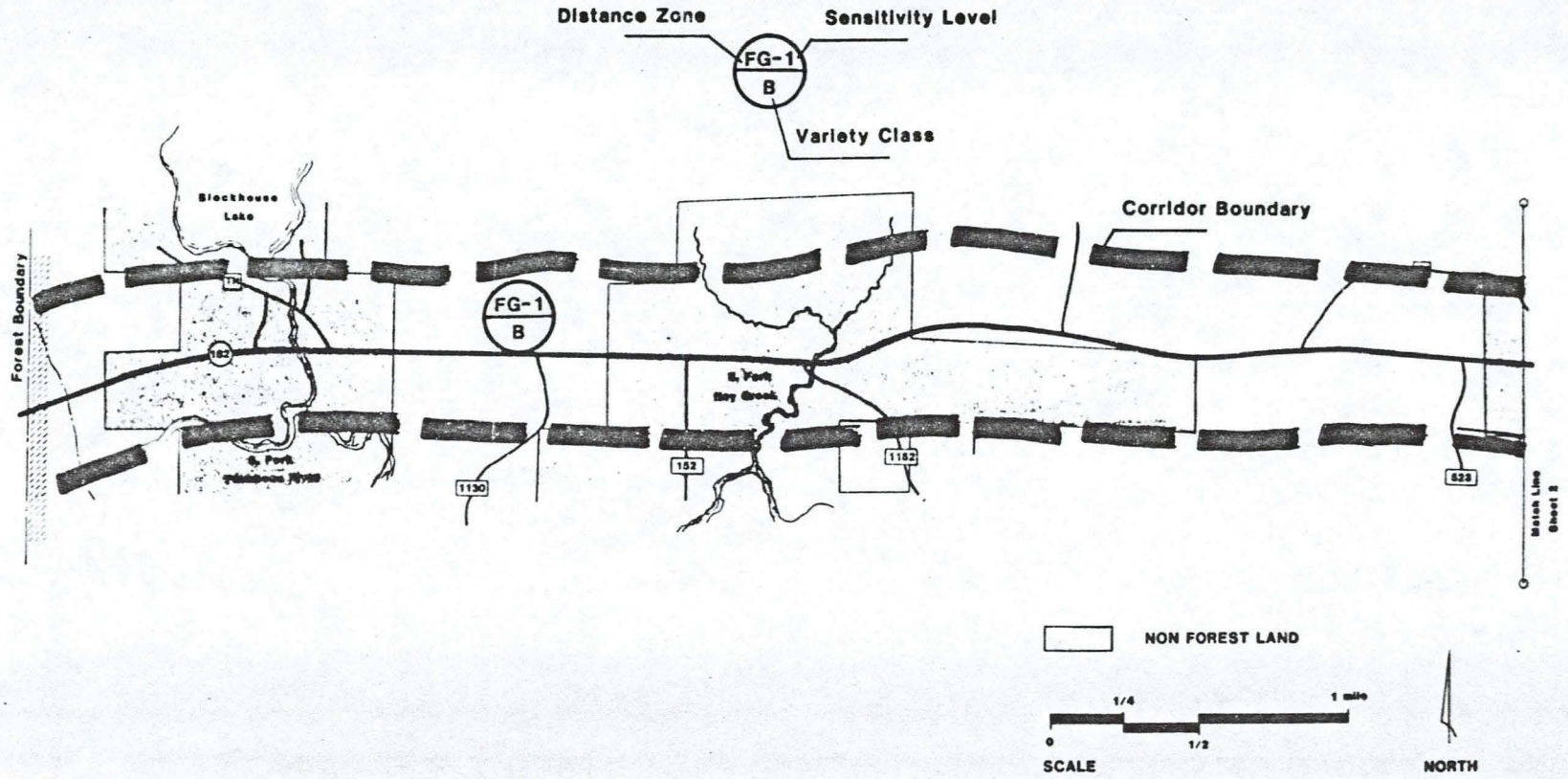
Reference Figures 4 and 5 for the diagram of the visual inventory.

2. Visual (Micro) - Existing Character

The existing character description is a detailed visual analysis of the site specific situation. The existing character description involves a much greater level of detail than the macro visual analysis. The existing character description sets the stage for the development of a desired condition description.

The existing landscape is characterized by flat to gently rolling glaciated terrain bisected by occasional drainages and covered with a variety of vegetative types. Northern hardwoods, aspen, red pine and jack pine are the dominant forest types. There are numerous lowland wetland, bogs, and open brush areas that provide the spacial diversity of openings. Highway 182 is crossed by three drainages that are characterized by dense growth of

VISUAL ANALYSIS – MACRO



HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST

Figure 4

Sheet 1 of 2

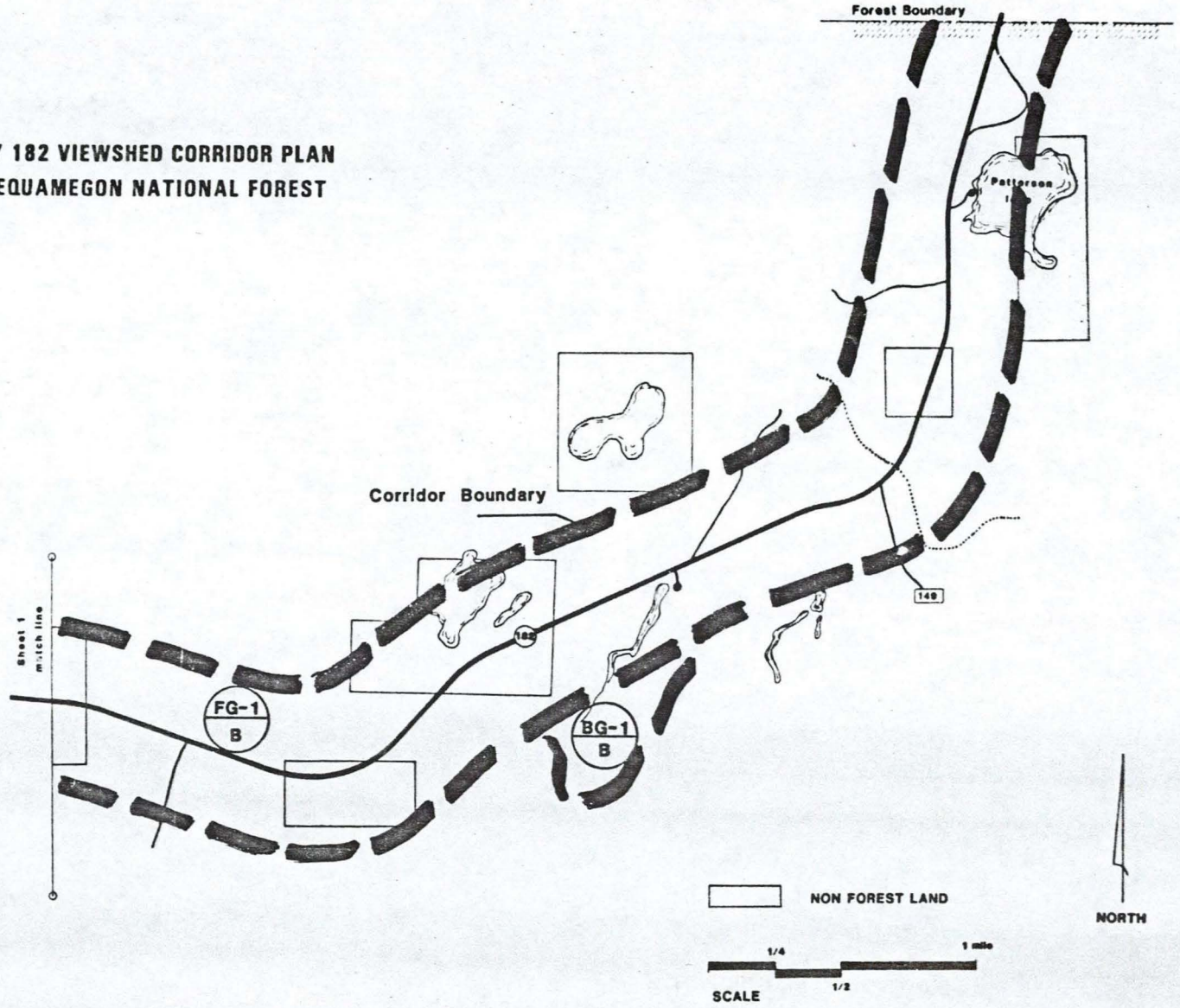

HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST
Forest Boundary
Patterson
Corridor Boundary
Sheet 1 match line
182
149
FG-1
B
BG-1
B
NON FOREST LAND
NORTH
1/4
1 mile
1/2
SCALE
Sheet 2 of 2

Figure 5

brush and tag alder. Newman Springs is visible from 182 and provides the only middle view along the corridor. Due to the relatively gentle terrain changes and vegetative cover, the view distance is limited to the immediate foreground in most areas.

Most of the overstory vegetation is of the same size representing a similar age grouping. The central to eastern portion of the corridor has an extensive amount of pine plantations along the roadway, the row plantation effect conveys an agricultural appearance. There is little depth of visual penetration into the dense stands of vegetation. The effect created is that of walls of vegetation that are occasionally broken spacially by natural openings; the resultant overall impression is that of a narrow corridor effect. The strong edge effect of pine plantations further accents the walled corridor effect. Visual variety is lowest in the area of extensive contiguous plantations of pine. In other areas the diversity of northern hardwoods, aspen, smaller pine stands, other conifers, and interspersed lowlands provide greater visual variety.

Cultural impacts on the landscape occur frequently on the intermittent private ownership adjacent to the highway. Most noticeable are year-round and seasonal residences with their various associated outbuildings and structures. Also associated with the private ownership and residences are created permanent openings such as lawns or active or abandoned small

EXISTING CHARACTER

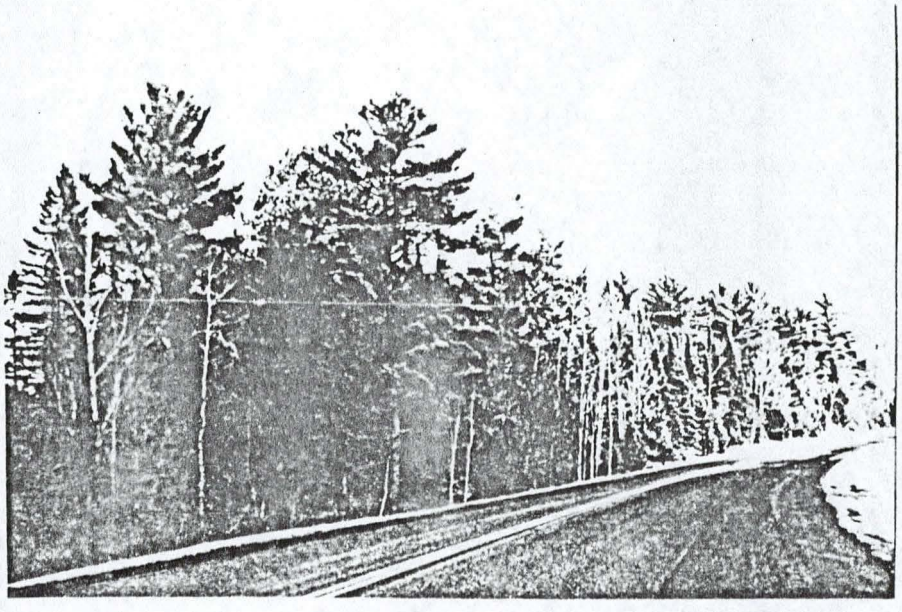
Hardwood Stand and Trail Intersection

Young Aspen Stand

Figure 6

EXISTING CHARACTER

Lowland Opening

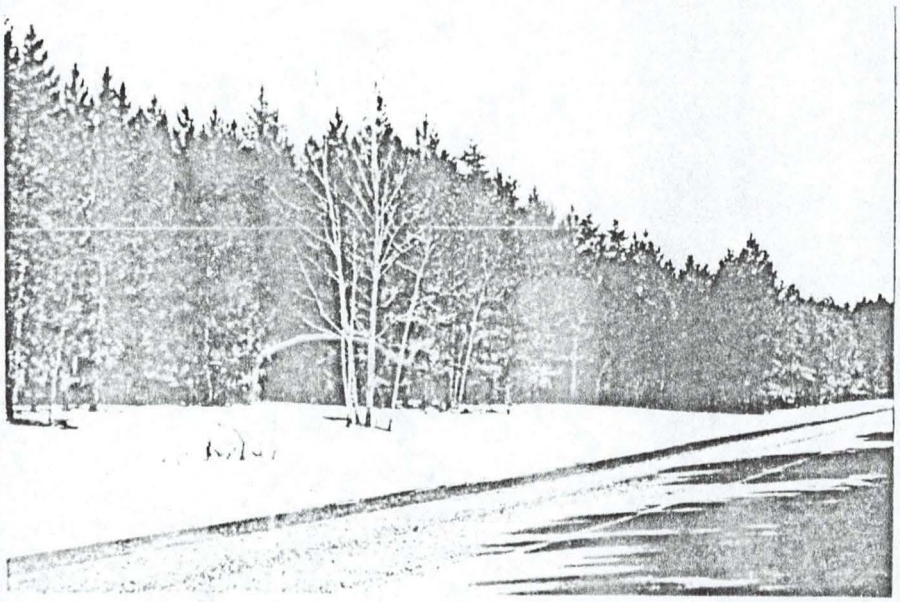


Large Tree Character-Old Growth White Pine

Figure 7

EXISTING CHARACTER

Conifer Corridor



Conifer Corridor

Figure 8

openings or clearings. Two country taverns occur along the highway. Overhead powerlines and buried telephone lines with their associated linear clearings occur intermittently along the roadway. A local TV antenna tower occurs just off the highway; the tower is a strong vertical element that remains visible for considerable distances.

The overall character is that of a young to medium aged forested corridor broken by natural lowland openings and drainages. The corridor has pockets of interspersed residences with associated structures, facilities, roads and powerlines. The setting is typical and characteristics of much of northern Wisconsin.

3. Recreation

Much of the travel on 182 occurs as a result of individuals pursuing a recreational activity. The Chequamegon National Forest has five recreation sites that utilize 182 as an access route:

Newman Springs Ski Trail

The trailhead and parking area for the Newman Springs Ski Trail is located directly off 182. The cross-country ski trail system is a series of four loops with a total of 8 kilometers of trail. The trail is a popular cross-country system that offers varying degrees of skill levels from beginners to intermediate skiers. Much of the trail is located within the viewshed corridor.

Newman Lake Picnic and Beach Area

This recreation facility is located just south of 182 off Forest Road 144, and Highway 182 is the primary access route. This site is a very popular summer day use area because it is one of the largest beach and picnic areas in proximity to the Park Falls area. Evenings and weekends often find the area filled to capacity. Swimming, picnicking, sunbathing, and boating are the most popular activities. This site is located outside of the viewshed corridor of 182.

There are three campgrounds that can be accessed off Highway 182. The campgrounds are Emily Lake, Wabasso Lake, and Twin Lakes. Each has boat landings and two have small beaches and picnic areas. The campgrounds are small and offer a total of 39 campsites. Use is generally light to moderate. These campgrounds are also outside of the viewshed corridor of 182.

A popular snowmobile trail crosses Highway 182 just east of a local tavern located along 182. The tavern becomes a favorite "pit stop" for snowmobilers using this route.

A county maintained boat landing and lake access occur just off 182, accessing Patterson Lake. The lake is managed for a trout fishery and receives considerable use.

Much of the travel on 182 is also oriented to fishing and use of the resort facilities in popular vacationing area of Mercer and the Turtle-Flambeau Flowage area.

B. BIOLOGICAL

There are three basic categories of biological data collection and analysis which include an Ecological Classification System, a Vegetative Classification System, and Wildlife.

1. Ecological Classification System

An Ecological Classification System (ECS) is a hierarchical framework for dividing ecosystems into relatively uniform units which can be mapped, described and interpreted in terms of forest resource capability and response to management. A specific hierarchical level in the ECS system is the Land Type Association (LTA). Such an association occurs in a predictable pattern and units are defined in consideration of soil, geology, landform, water, natural vegetation and climate characteristics. Typical size ranges from hundreds to thousands of acres.

The LTA's found within the highway corridor are mapped and shown in Figures 9 and 10. A brief description of each LTA within the corridor follows:

1 - E: Esker

Eskers are long, sinuous, ridges with short steep slopes (15-40% slope gradients) on either side of the ridge. They frequently border bogs and lakes and provide a striking contrast against the low flat topography. On

LAND TYPE ASSOCIATION

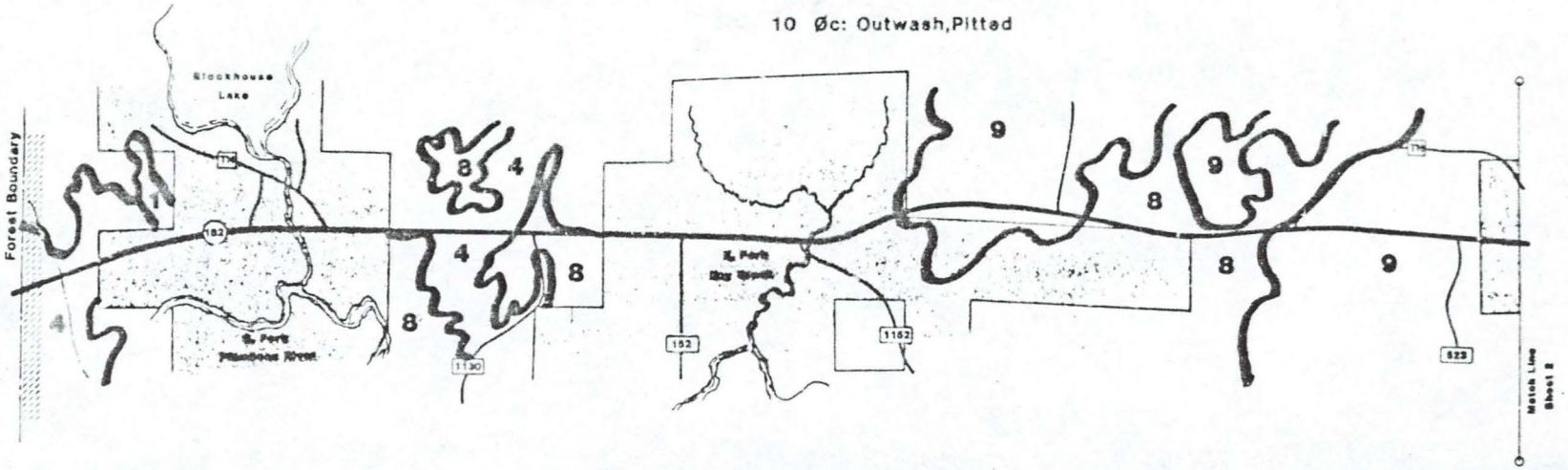
1 E: Esker

4 Gc-M: Glacial Till,Rolling

8 P: Bog

9 Ø: Outwash,Nearly level

10 Øc: Outwash,Pitted



NON FOREST LAND

SCALE 0 1/4 1/2 1 mile

NORTH

HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST

Figure 9

Sheet 1 of 2

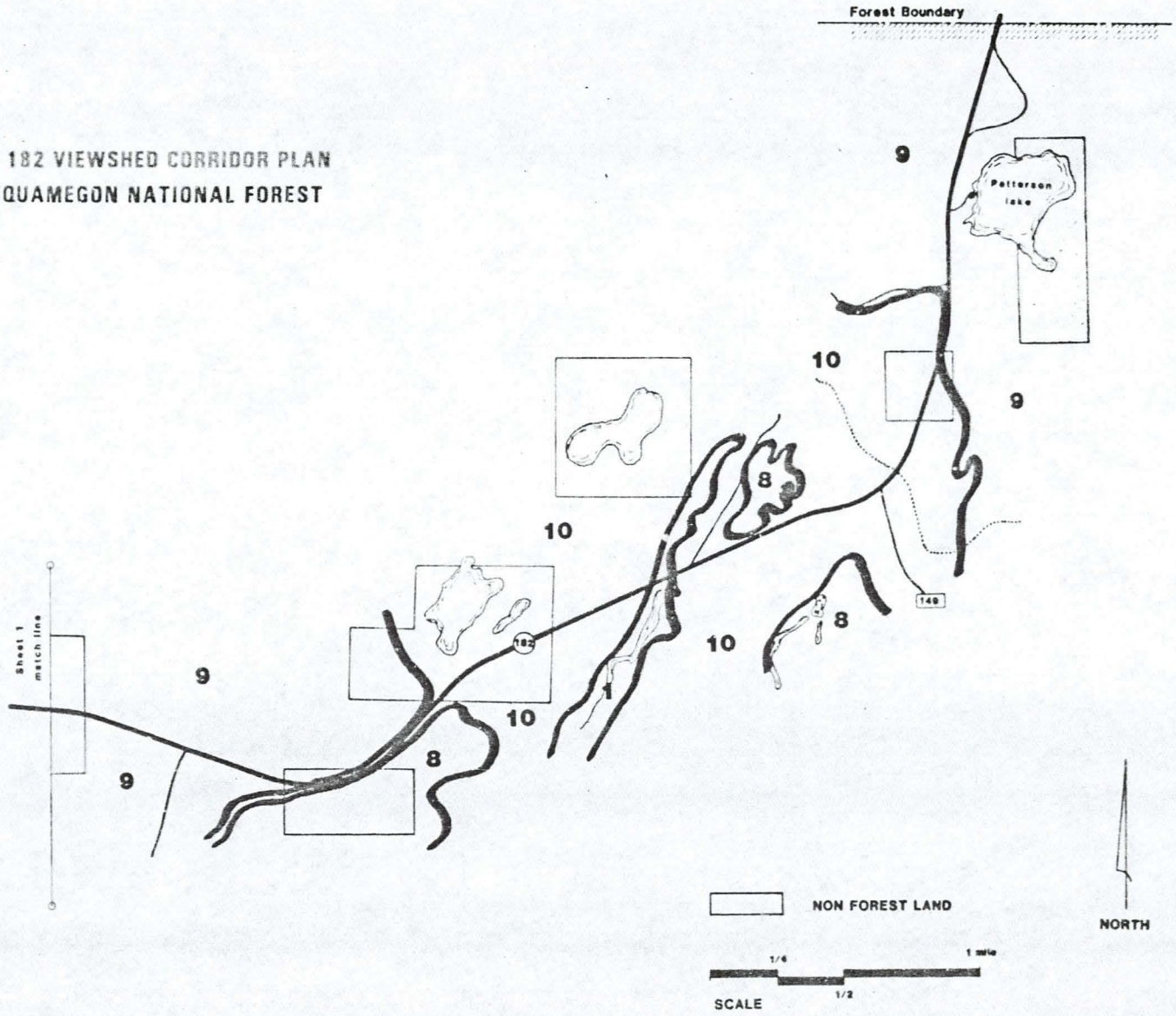

HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST
Forest Boundary
Patterson lake
9
10
9
8
10
10
8
9
9
10
8
1
Sheet 1 match line
182
149
NON FOREST LAND
NORTH
SCALE
1/4
1/2
1 mile
Sheet 2 of 2
2/85

Figure 10

the Chequamegon National Forest, they vary in height from about 20 feet to more than 70 feet. In spite of their relatively small extent, eskers have a unique importance as our most reliable source of gravel.

Soils of eskers usually have a thin loamy surface underlain by sand and gravel. They are well or excessively drained, and are usually droughty.

Natural dominant timber species:

Pioneer - Aspen, White Birch

Intermediate - Red Maple, White Spruce, Balsam Fir, Red Pine

Climax - Red Pine, Red Maple, Balsam Fir, White Spruce

4 - Gc-M: Glacial Till, Rolling

The topography of glacial till, rolling, ranges from gently sloping to moderately steep (5-15% slope gradients) with moderate slope lengths. Drumlins and drumlinoid features are included in glacial till, rolling. Glacial till, rolling, is the most extensive mapping unit on the Forest. It occurs throughout the Forest.

Most soils on this mapping unit are deep sandy loams, but some have silt loam surface layers and still others are deep loamy sands. The well and moderately well drained soil drainage classes predominate. Natural soil fertility is high.

The silt loam and sandy loam soils of glacial till, rolling, are as productive as any on the Forest. However, the proportion of loamy sand soils results in the landform as a whole being slightly less productive than ground moraine basal till.

Glacial till, rolling, is dominated by hardwoods. Virtually every hardwood species common to Northern Wisconsin can be found and will grow well on this mapping unit.

Natural dominant timber species:

Pioneer - Red Maple, Sugar Maple, Aspen, White Birch

Intermediate - Red Maple, Northern Red Oak, American Elm, White Spruce, Balsam Fir

Climax - Northern Red Oak, Sugar Maple, Red Maple, Basswood

8 - P: Bog

The bog mapping unit is characterized by flat topography and wet organic soils. It includes broad expanses as well as potholes, depressions, drainageways and floodplains. Bogs are of major extent, and they are distributed throughout the Forest, except they are not present on the northern part of the Washburn District.

Most areas mapped as bogs have organic rather than mineral soils. In some cases the soil has an organic surface layer only a few inches thick, and in other cases the organic material is many feet thick. The predominant drainage classes are poor and very poor.

Some areas mapped as bogs are dominated by swamp conifers while others are nearly devoid of trees. Because a knowledge of the vegetation of bogs has historically been of low priority, the vegetative habitats and successional stages have not been determined to date.

Natural dominant timber species:

Pioneer - Black Spruce, Tamarack, Balsam Fir

Intermediate - Same as pioneer

Climax - Unknown

10 - Øc: Outwash, Pitted

Outwash, pitted, is characterized by rolling to hilly slopes (5-20% slope gradients) with sandy soils. When viewed from a distance, the hilltops form an even horizontal plain, giving the viewer the impression that the topography is due more to depressions or "pits" in the plain rather than to hills projecting up from it. Outwash, pitted, is of intermediate extent on the Forest, and it occurs primarily on the Washburn and Hayward Districts.

Soils on this mapping unit generally have loamy sand surface layers from 6 to 18 inches thick. Medium and coarse sand is usually found beneath the surface layer. These soils are excessively drained, and droughtiness is a serious limiting factor. The sandy textured soils are not able to hold soil nutrients well, and consequently they are not very fertile. Low fertility and droughtiness result in outwash, pitted, having the lowest productivity of any mapping unit on the Forest except for bogs.

Outwash, pitted, is dominated by jack pine, red pine, and drought-tolerant hardwoods. Coniferous species would naturally dominate this mapping unit, but the proportion of them currently present has been increased by artificial reforestation and man-induced fire.

Natural dominant timber species:

Pioneer - Aspen, Jack Pine

Intermediate - Red Pine, Northern Red Oak, Jack Pine

Climax - Red Pine, Jack Pine, Northern Red Oak, Red Maple

9 - Ø: Outwash, Nearly Level

This mapping unit has little local relief and is nearly level to undulating (0-10% slope gradients). It is of intermediate extent, and it is distributed throughout the Forest.

The soils of outwash, nearly level, are quite variable, and they differ from one part of the Forest to another. On the Washburn District, they generally are well to excessively drained, and they have loamy sand to sandy loam surface layers underlain by sand. On the rest of the Forest, they range from somewhat poor to excessively drained, have the same loamy sand to sandy loam surface textures but are more often underlain by sand and gravel than by pure sand. The outwash soils on the Washburn District are generally in the lower fertility ranges, but on the rest of the Forest they range from low to high, depending upon the thickness of the surface layer and the amount of silt and clay which it contains.

Because of the high degree of variability from one delineation to another, vegetative diversity is naturally high on this mapping unit, though

coniferous and drought-tolerant hardwoods predominate. Coniferous species would naturally dominate this mapping unit, but the proportion of them currently present has been increased by artificial reforestation.

Natural dominant timber species:

Pioneer - Aspen, White Birch

Intermediate - White Pine, Northern Red Oak, Red Pine

Climax - White Pine, Eastern Hemlock, Northern Red Oak, Red Pine, Red Maple

2. Wildlife

The primary wildlife habitat manipulation performed on the Forest is the creation of permanent grassy openings. At present there exists a number of natural lowland openings that provide wildlife habitat diversity and visual diversity. Along Highway 182 and other state and county highways in the area, traffic accidents involving deer and vehicle collisions or vehicles leaving the roadway to avoid deer contact are quite numerous. Creation of grassy openings within the viewshed corridor could encourage additional deer movement in the roadway and possibly contribute to additional deer related accidents. Additional openings will not be created in the corridor as potential hazards offset the potential wildlife benefits.

3. Vegetation

The vegetation was inventoried using the existing classified timber stands as the primary working unit of vegetative analysis. Timber stands are the primary unit of vegetative management on the Forest and subsequently became the primary working unit of analysis and data reference for this plan.

Existing stand data was compiled for analysis using the TMIS computer data base. A Chequamegon TMIS report #41 was generated for each stand within the corridor. The following are the information categories that the report addresses for an individual stand:

District
Compartment
Stand
Type
Land Use Class
Size/Density
Acres
Stand Condition
Age
Average Diameter
Product Species
Product Site Index
Management Species
Management Site Index

Species List by: type, total basal area, per cent basal area, residual basal area, Cof per acre and Cof per stand
Understory
Water Table and Soil
Insect and Disease Type
Cut Prescription
Cultural Prescription
Coordination Required
Remarks

Reference Appendix B for an example of a generated report #41.

There are four major groups of timber types (northern hardwoods, red pine, aspen, jack pine) and a composite grouping of lowlands, bogs, water, and grass openings, that comprise more than 87 percent of the area of the corridor. There are five other forest types that occur less frequently along the corridor and represent 13 percent of the corridor area. Reference Figures 11 and 12 for comparative graphs of the amount of vegetative types within the corridor.

Most of the forest types occur within the age class grouping of 40 to 50 years of age. This age class grouping represents the establishment of the forest by natural forces and hand planting in the 1930's after most of the land was previously cut over or burned over. Most of the pine along the corridor is a result of hand planting by members of the Civilian Conservation Corps (CCC's) of the 1930's. Figure 13 represents the age class grouping within the corridor of the four major forest types.

VEGETATIVE TYPE BY ACRES

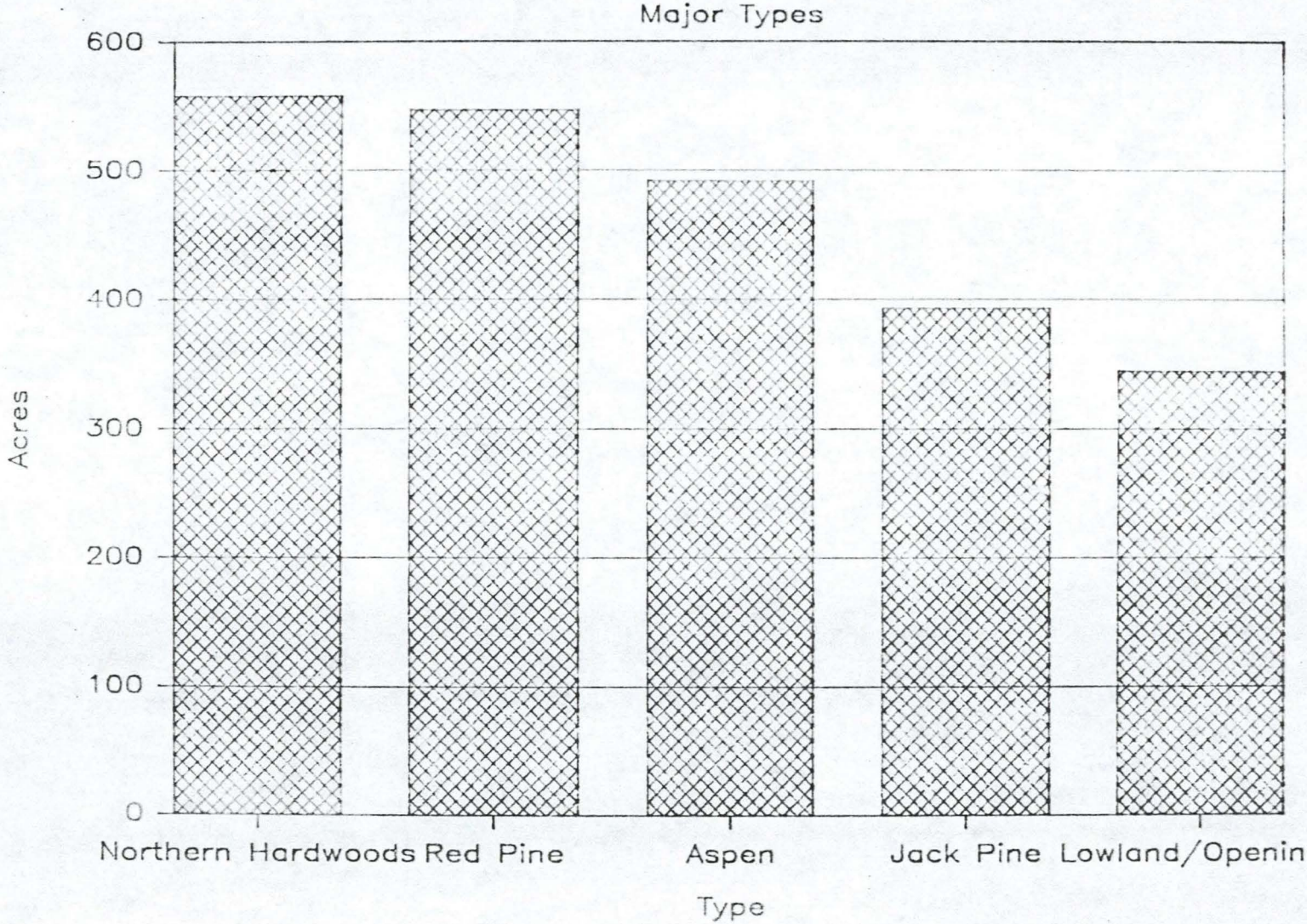


Figure 11

VEGETATIVE TYPE BY ACRES

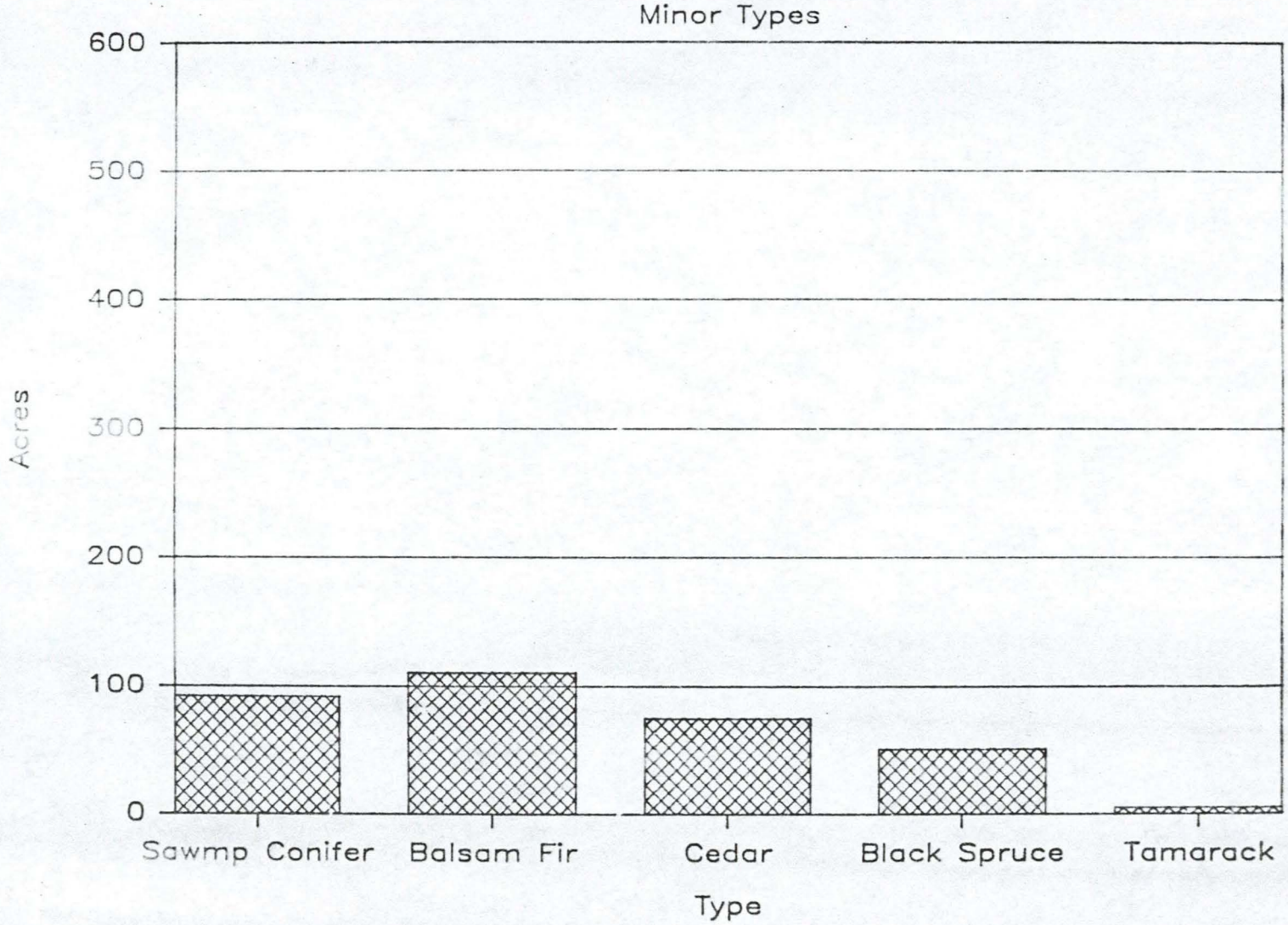


Figure 12

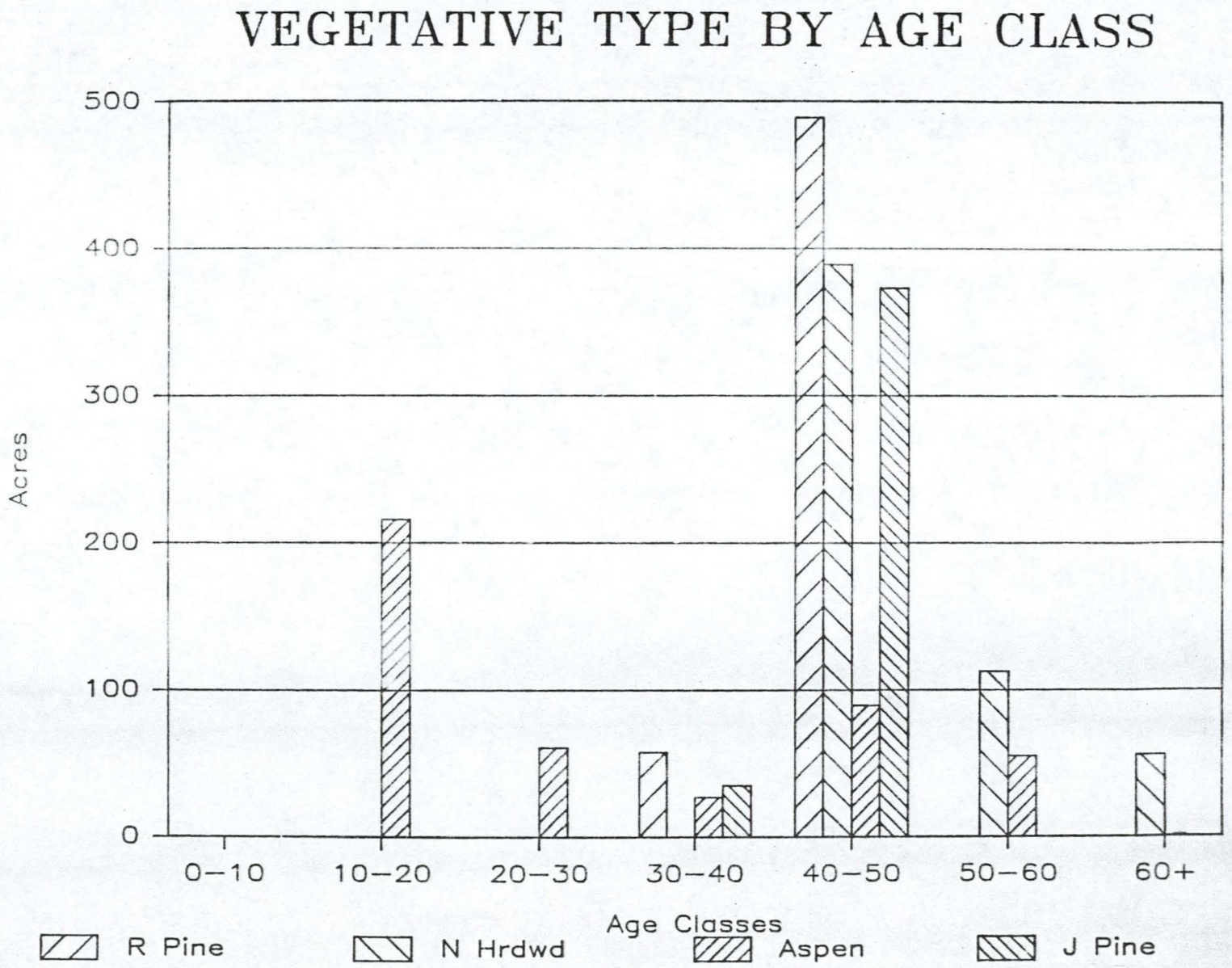
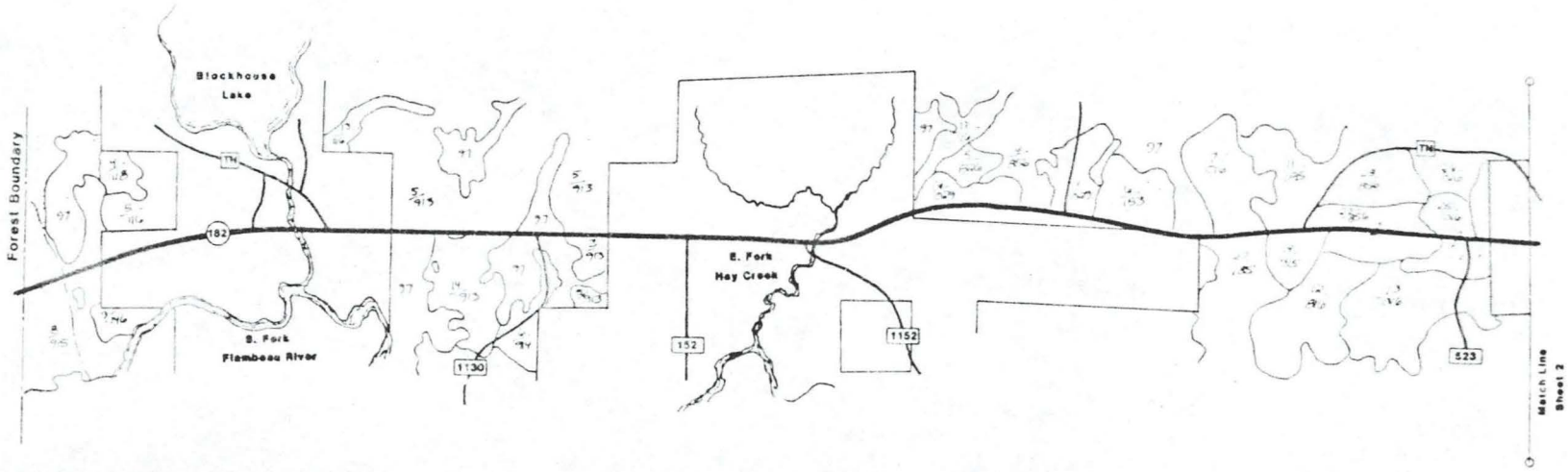

VEGETATIVE TYPE BY AGE CLASS
500
400
300
200
100
0
Acres
0–10
10–20
20–30
30–40
40–50
50–60
60+
Age Classes
R Pine
N Hrdwd
Aspen
J Pine

Figure 13

A summary of the forest stand data organized by vegetative type occurs in Appendix D.

The present distribution and layout of forest stands along the corridor is shown in Figures 14 and 15.

VEGETATIVE TYPE



NON FOREST LAND

SCALE 0 1/4 1/2 1 mile

NORTH

HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST

Figure 14

Sheet 1 of 2

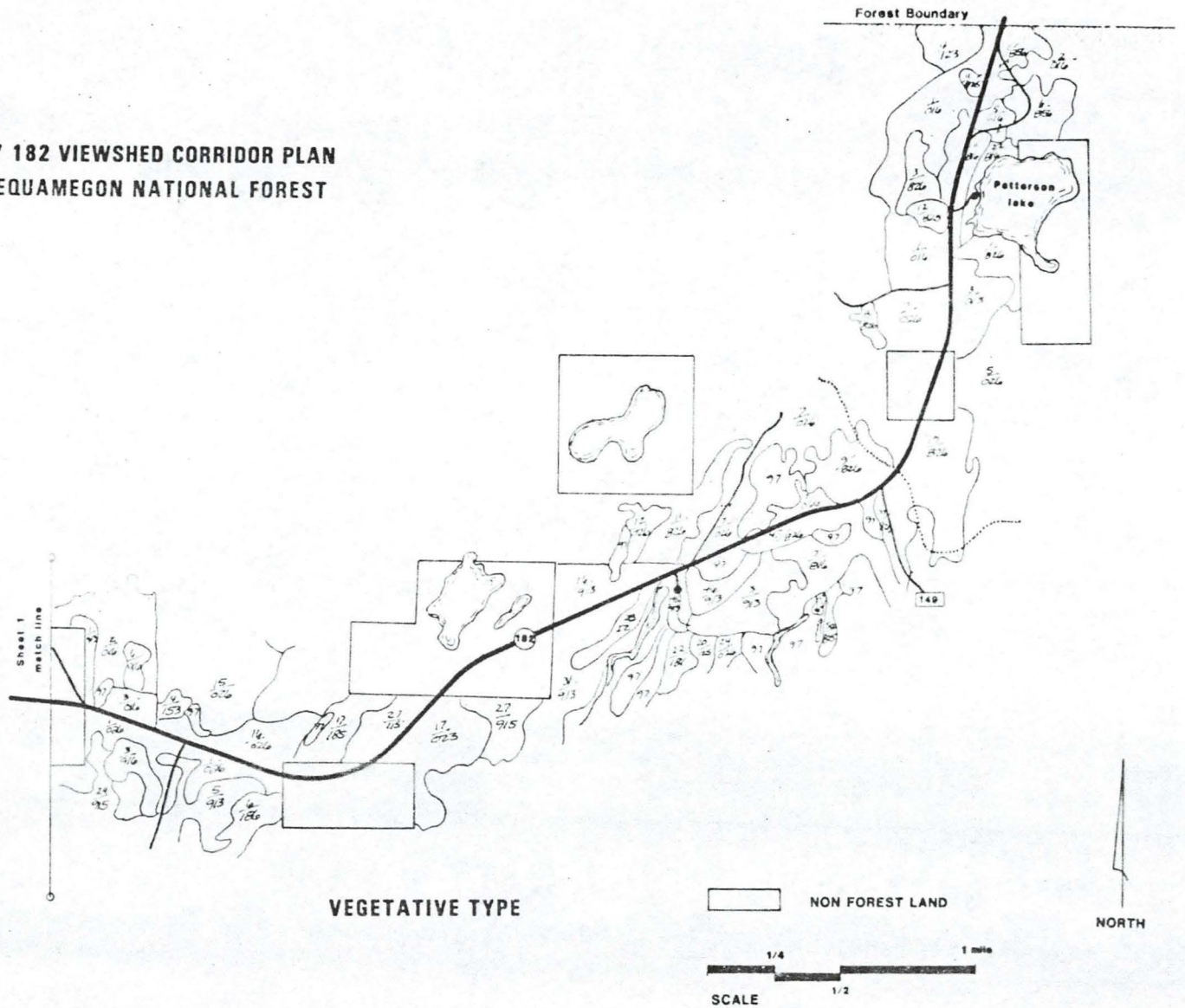
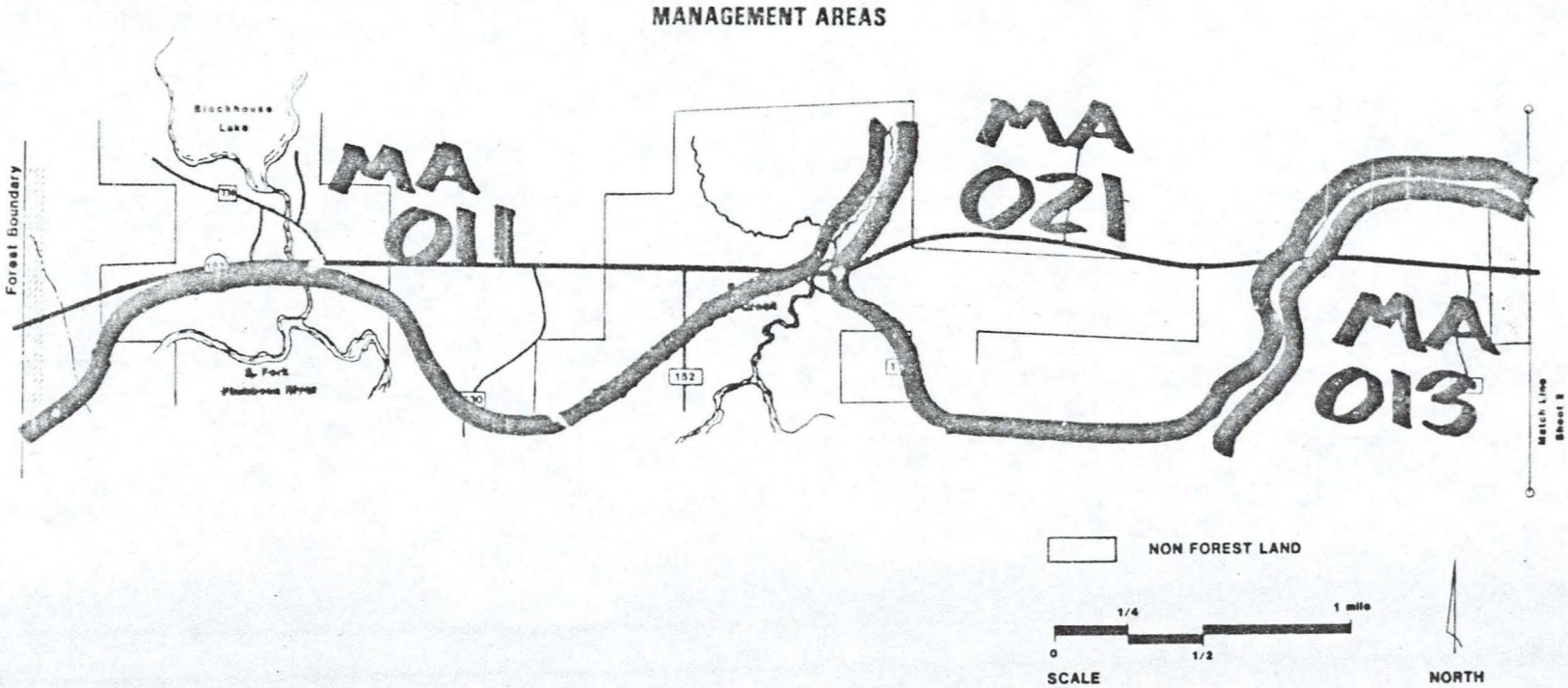

HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST
Forest Boundary
Patterson lake
Sheet 1 match line
182
149
VEGETATIVE TYPE
NON FOREST LAND
NORTH
1/4
1 mile
1/2
SCALE
Sheet 2 of 2
2/85

Figure 15



HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST

Figure 16

Sheet 1 of 2

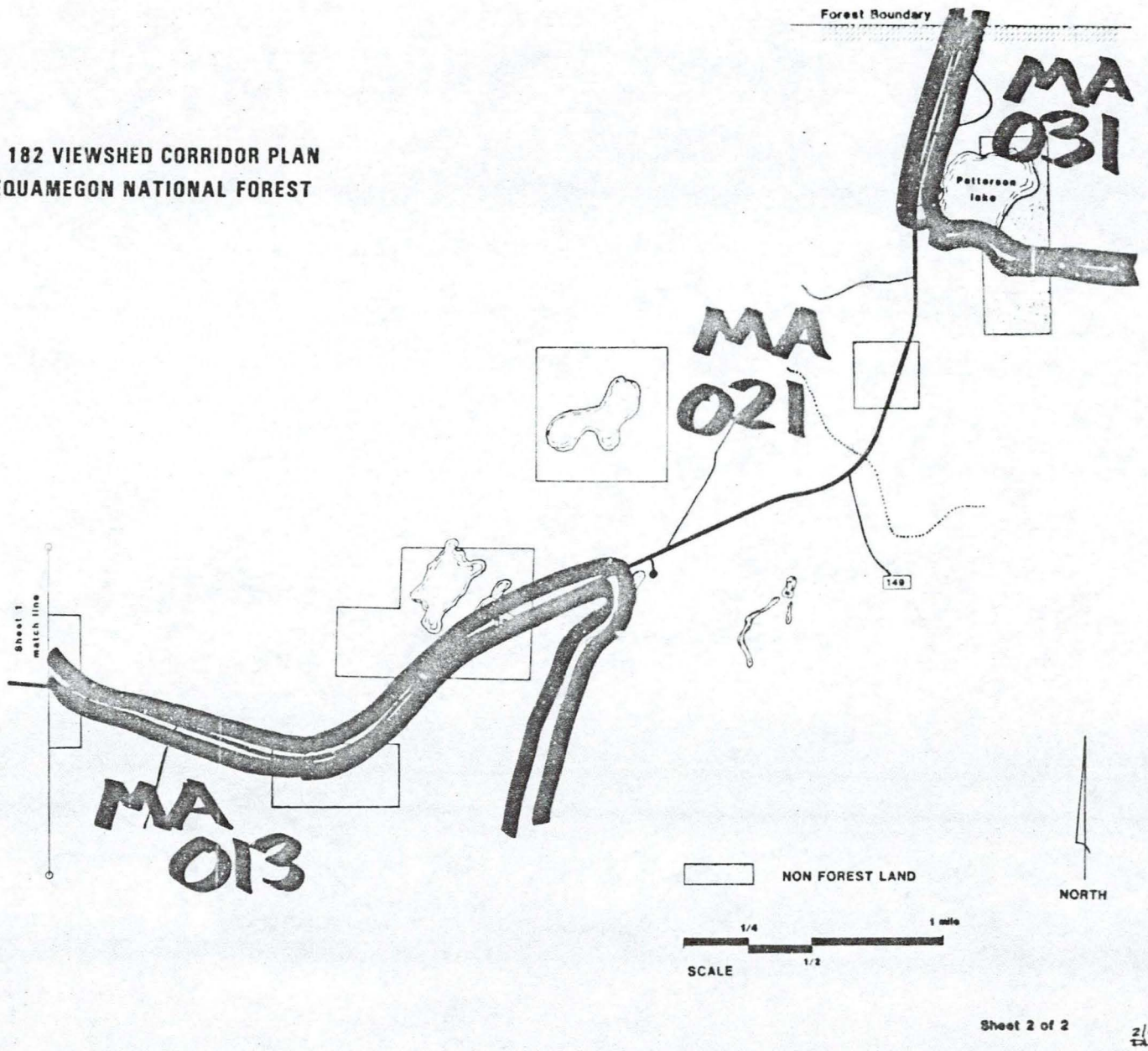

HWY 182 VIEWSHED CORRIDOR PLAN
CHEQUAMEGON NATIONAL FOREST
Forest Boundary
MA 031
Patterson lake
MA 021
149
Sheet 1 match line
MA 013
NON FOREST LAND
NORTH
1/4
1 mile
1/2
SCALE
Sheet 2 of 2
2/85

Figure 17

Chapter V

Viewshed Direction - Recommendations

The viewshed direction represents the recommendations of this study as a result of the previous data collection and analysis. Direction stated here leads from the general, as stated in the "Draft Chequamegon National Forest Land and Resource Management Plan," to site specific stand prescriptions. The review of Forest Plan direction covers the basic management area prescriptions, recreation management direction, and visual management direction. A statement of desired character provides a greater level of site specific detail and direction, and ultimately the final level of detail and of recommendation is the individual stand prescription.

A. FOREST PLAN DIRECTION

1. Management Area Prescriptions

Overall management direction for the Highway 182 corridor is found in the Draft Forest Plan for the Chequamegon National Forest. As a part of the Forest Plan, management areas have management prescriptions and standards and guidelines for achieving various goals. The Highway 182 viewshed corridor is not a unique management area unto itself, but rather is a part of a number of other larger management areas. Management areas of which the corridor is a part are MA #011, #021, #031 and #013. Reference Figures 16 and 17.

Overall management prescription for three of the areas (#011, #021 and #031) is 1.1 and one area (#013) is allocated to prescription 3.1. Basic management purposes of the prescriptions are as follows:

Management Prescription 1.1

- Emphasize the production of aspen pulpwood through even-age management.
- Emphasize habitat management for wildlife species associated with pioneer vegetation such as white-tailed deer, ruffed grouse, and sharp-shinned hawk.
- In Management Prescription 1.1, provide opportunities for a wide variety of motorized and non-motorized recreation within a roaded natural setting.

Management Prescription 3.1.

- Emphasize the production of hardwood sawtimber through even-age management. Produce hardwood and softwood fiber and softwood sawlogs in moderate amounts.
- Maintain or increase vegetative diversity to improve habitat for wildlife species, primarily non-game.
- Through Management Prescription 3.1, provide opportunites for a wide variety of motorized and non-motorized recreation within roaded natural areas.

Specific direction for such prescriptions in terms of vegetation compositions and management standards and guidelines is found in the Draft Forest Plan and will not be repeated in this document. Timber sale schedules for the 1st decade for these management areas as allocated in the Draft Forest Plan can be found in Appendix E.

2. Recreation Management Direction

The Draft Forest Plan identifies the Recreation Opportunity Spectrum (ROS) classification for the area as "Roaded Natural". Characteristics of this recreation management objective are:

Setting Characterization - Area is characterized by predominantly natural appearing environments with moderate evidences of the sights and sounds of people. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for.

Experience Characterization - About equal probability to experience affiliation with other user groups and for isolation from sights and sounds of humans. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities associated with more primitive type of recreation are not very important. Opportunities for both motorized and non-motorized forms of recreation are possible.

Evidence of Humans Criteria - Natural setting may have modifications which range from being easily noticed to strongly dominant to observers within the area. However, from sensitive travel routes and use areas these alterations would remain unnoticed or visually subordinate.

Social Setting Criteria - Frequency of contact is moderate to high on roads; low to moderate on trails and away from roads.

Managerial Setting Criteria - On site regimentation and controls are noticeable but harmonize with the natural environment (controls can be physical such as barriers, or regulatory such as permits).

3. Visual Resource Management Direction

Visual resource management direction specific to the Highway 182 corridor is given in the Draft Forest Plan by the assigning of "Visual Quality Objectives" (VQO's) found in the standards and guidelines. VQO's are the result of the interaction of the inventoried variety class, sensitivity level and distance zone. The resultant VQO for the 182 corridor is "Partial Retention".

Partial Retention (definition)

Management activities remain visually subordinate to the characteristic landscape when managed according to the partial retention visual quality objective.

Activities may repeat form, line, color, or texture common to the characteristic landscape but changes in their qualities of size, amount, intensity, direction, pattern, etc., remain visually subordinate to the characteristic landscape.

Activities may also introduce form, line, color, or texture which are found infrequently or not at all in the characteristic landscape, but they should remain subordinate to the visual strength of the characteristic landscape.

Changes in the landscape may be noticeable but they do not attract attention.

B. DESIRED CHARACTER

The desired character description provides a greater level of specificity and detail than the visual quality objective in providing visual management direction. The desired character is defined in site specific terms and represents the future or steady state condition. A desired character description establishes a framework for future desired conditions specific to this individual viewshed based upon analysis of the existing situation, management opportunities and management objectives.

Overview

The desired character is one of a variety of vegetative types, sizes, and ages. Natural openings of lowlands and bogs will be noticeable. The existing conifer plantations will lose their row effect due to irregular thinning patterns. Some conifer stands will have large diameter (18"+) trees. The conifer stands carried to an extended rotation age will have an open park-like appearance with large diameter trees, the penetration of the viewing distance will increase into these stands. Inclusions of other deciduous types will be found within some of the stands.

During the fall season, the yellow foliage color of aspen and the reds, golds, and oranges of maples will be evident. There will be a variety of sizes (age classes) in the short rotation age species such as aspen. The northern hardwood stands will be stands consisting of various sized trees and some stands will have a number of large trunk diameter trees (18"+). Views are maintained to water areas and lowlands in the foreground. All temporary openings created by timber harvesting will have irregular shapes that emulate natural openings.

Overhead powerlines are converted to underground lines. The right-of-way clearings for utilities are not linear clearings but rather have undulating edges that reduce the effect of landscape contrast. The highway right-of-way clearings are used for most of the underground lines.

Pine Plantations - Red Pine, Jack Pine

Stand sizes will be variable from 10 to 30 acres. Usually several age classes can be seen from one vantage point. Rows in plantations are not obvious and trees tend to be irregularly spaced suggesting a natural condition. Stands may be broken up with patches of deciduous types. The jack pine component is eliminated during the first two decades. Some red pine stands are converted to white pine. Occasional patches and individual white pine trees stand out above other trees appearing as remnants of an older forest. Some stands of red pine have an extended rotation age and the resulting big tree character is particularly noticeable. Stands are clean in appearance with few signs of logging residue or dead and downed material.

Aspen

There is a range of age classes from young suckers to mature stands. Stand size ranges from 10 to 30 acres. Temporary openings are well dispersed and more than one age class can be seen from one vantage point. Scattered islands of other types (conifers, hardwoods) exist mixed within the aspen.

Northern Hardwood

Stand sizes vary from 10 to 40+ acres. The appearance of the stand is one of varying sized trees with a dominant visual presence of larger sized trees (18"+ diameter). Most stands are dominated by shade tolerant species while others are a mixture of mid-tolerant and tolerant species. The understory contains many of the climax forest shrubs and hardwood reproduction. Visual penetration is usually

limited due to the presence of the understory. Logging residues are generally not noticeable. The hardwoods provide fall color diversity of oranges, reds, and golds.

C. Prescriptions - Recommendations

The prescriptions become the vehicle whereby the preceding goals, objectives, direction, and desired condition become translated into a specific management recommendation for a unique, identified parcel of land. The prescriptions are the "nuts and bolts" of the recommendations of this plan; they act to move the corridor from the existing condition to the desired condition.

The process for arriving at stand specific prescriptions is an analytical process that incorporates the TMIS data base and FORPLAN analysis area prescriptions with an interdisciplinary field review to achieve a desired result.

1. Forest Plan Integration

The FORPLAN model used in the preparation of the Chequamegon Draft Land and Resource Management Plan provides prescriptions for analysis areas. The stand specific prescriptions that were developed as a part of this document follow, for the most part, the alternative provided by the FORPLAN prescription. Stands within the corridor were classified according to analysis area type by management area. These analysis area types were

then cross referenced with the FORPLAN prescription. In some instances, the FORPLAN prescription was modified or altered to achieve the desired condition and objective of the viewshed corridor. An example is that in some instances it was necessary to prescribe a final harvest or clearcut over two decades in a stand of 40+ acres in order to not exceed the 40 acre limitation, whereas the FORPLAN prescription provided for harvest in only one decade. Another example is the prescription to extend rotation ages of red pine 120+ years, whereas the FORPLAN prescription may call for harvesting at 100 years. Individual instances of modifications from the FORPLAN prescription are discussed in the prescription summaries and are noted on the individual stand prescription sheets.

2. Prescription Summary

The prescription provides for a transition to an older mature forest character with a big tree appearance along much of the corridor. The big tree character occurs predominantly in the northern hardwood and red pine types. The aspen is moved to a more regulated condition with a more even balance of age classes which demonstrates a forest being actively managed and in various stages of growth and fiber production. The jack pine conifer component is eliminated and converted to red pine and aspen. Various inclusions in the conifer, aspen and hardwood stands are maintained in order to provide diversity. There is occasional short term evidence of red pine thinning to promote healthy vigorous growth and provide sawlog

production. The thinnings reduce the row plantation effect of conifer plantations. The minor forest types are maintained in order to provide diversity. Views to the natural openings, lowlands, and water are maintained and enhanced.

Figure 18 shows the existing age class structure while Figure 19 represents the age class structure at the end of the 5th decade as a result of applying the recommended prescriptions. The 5th decade situation shows a greater balance of age classes and an emphasis on older, large diameter trees represented by the 81-100 age class.

Northern Hardwoods

In general, the prescriptions allow the hardwoods to change over time from a middle aged condition to a mature forest character. The character at the end of the 5th decade would be that of a mature forest with large diameter trees.

The majority (66 percent) of northern hardwoods is prescribed for management under a minimal, non-timber management status. Twenty-five percent is prescribed for all age management and 9 percent is prescribed for even aged management. Foreground areas of even age management should utilize a three-cut shelterwood. The desired condition for northern hardwoods in the foreground of the viewshed corridor is a big tree

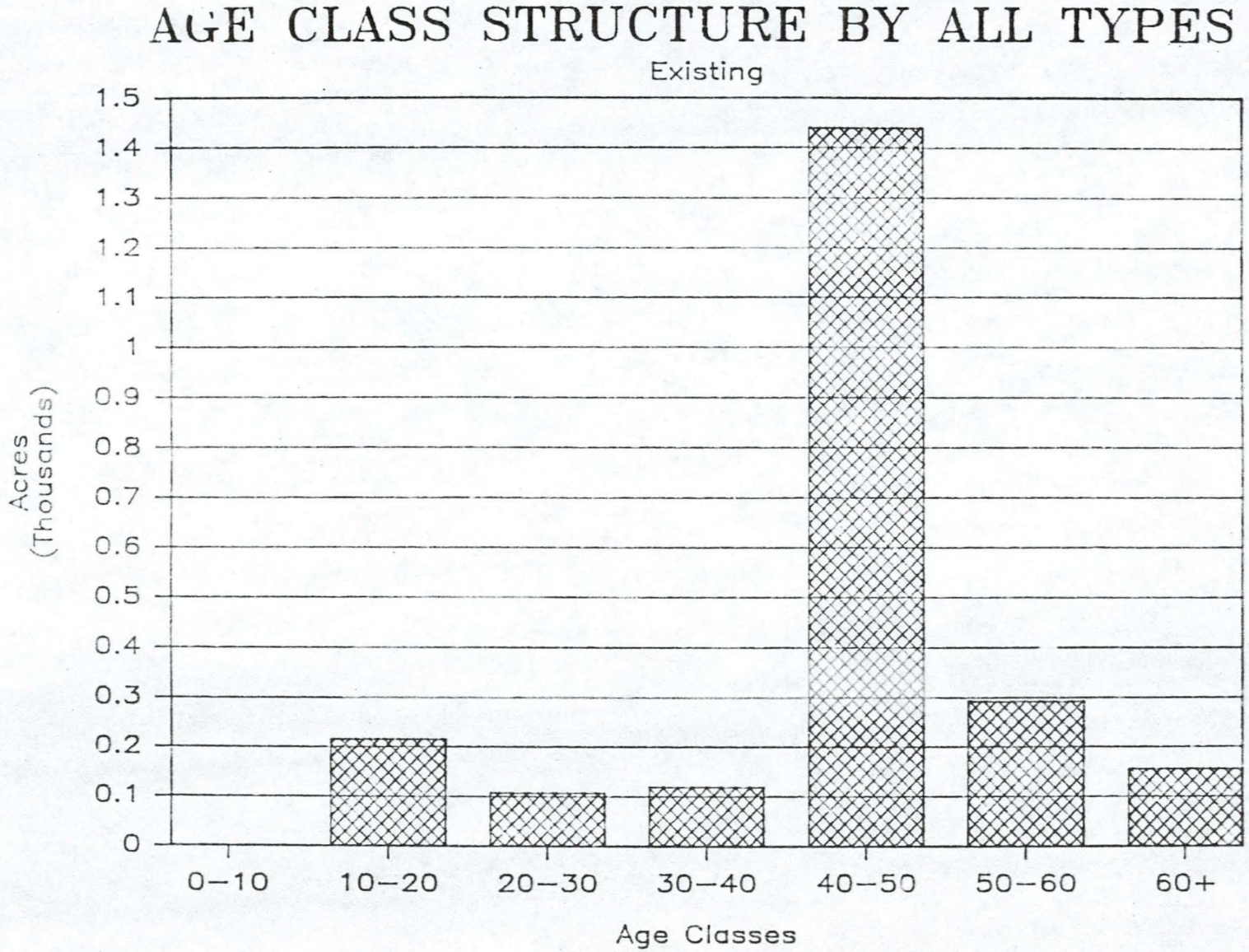

AGE CLASS STRUCTURE BY ALL TYPES
Existing
Acres (Thousands)
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0–10
10–20
20–30
30–40
40–50
50–60
60+
Age Classes

Figure 18

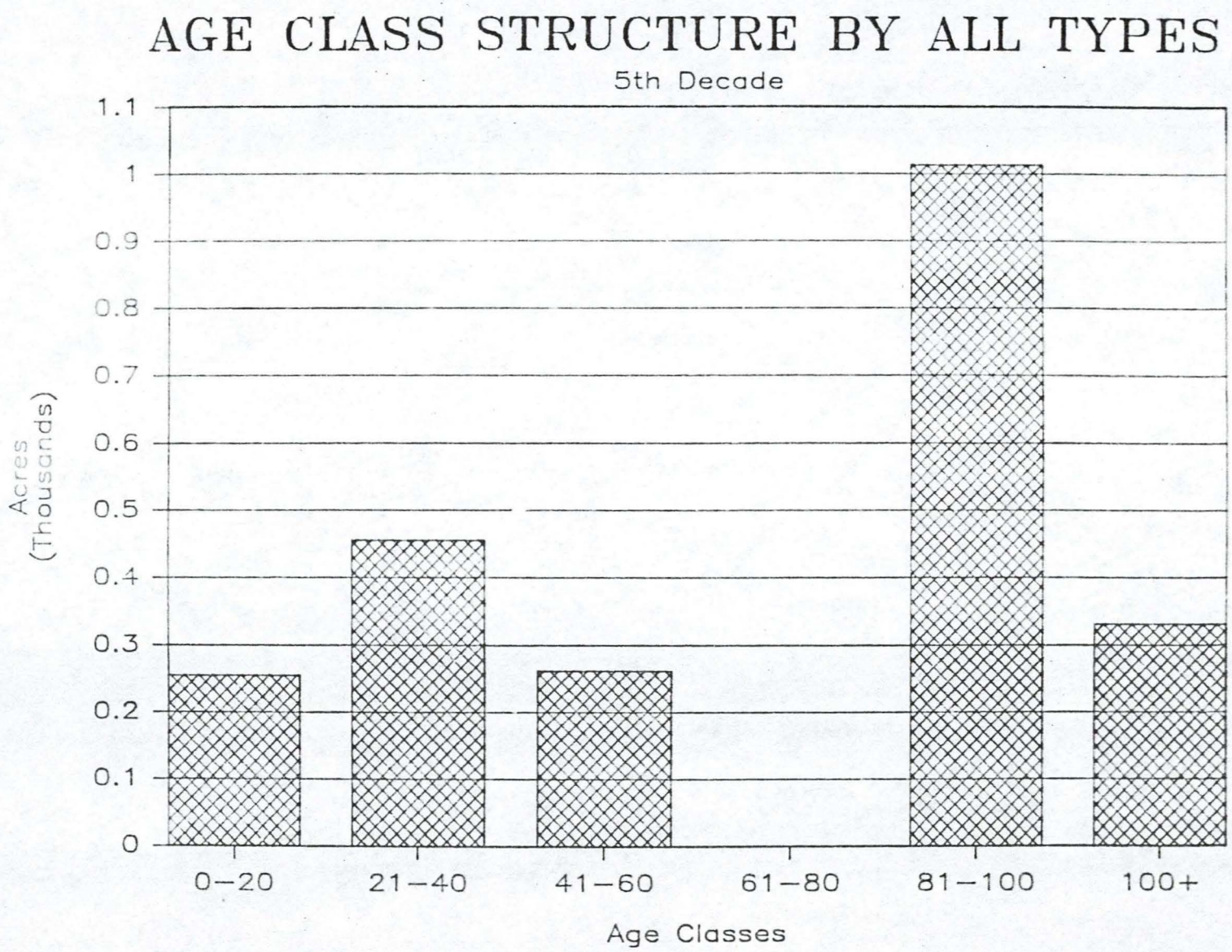

AGE CLASS STRUCTURE BY ALL TYPES
5th Decade
Acres (Thousands)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0–20
21–40
41–60
61–80
81–100
100+
Age Classes

Figure 19

character. All age management with an emphasis on large diameter trees would be the preferred method of reaching this condition. A non-timber management alternative will achieve this condition, but in a greater length of time and in a less orderly condition with amounts of dead and down timber. The non-timber management prescription is a result of the FORPLAN prescription for the dominant northern hardwood analysis area. If additional acres of northern hardwood are needed in the future to meet management objectives, the preferred alternative would be all aged management with some conversion to white pine, white spruce, and hemlock to increase diversity. Forcing a small amount of conversion to white pine in the management areas along the corridor during the next plan revision would be desirable. This would depend upon the projected availability of disease resistant white pine stock. Seventy-one acres of mixed aspen/hardwood is prescribed to be converted to northern hardwoods. This represents a modification of the FORPLAN prescription in aspen stands that are bisected by the Newman Springs cross-country ski trail. The FORPLAN prescription was to convert to jack pine. This study is recommending a modification due to the desirability of converting to a long lived species in such a sensitive recreation use area. A second alternative would be to prescribe minimum level management.

Figure 20 represents the existing age class structure of northern hardwoods with most of the hardwoods falling in the 41-50 age class. Figure 21

NORTHERN HARDWOODS MANAGEMENT

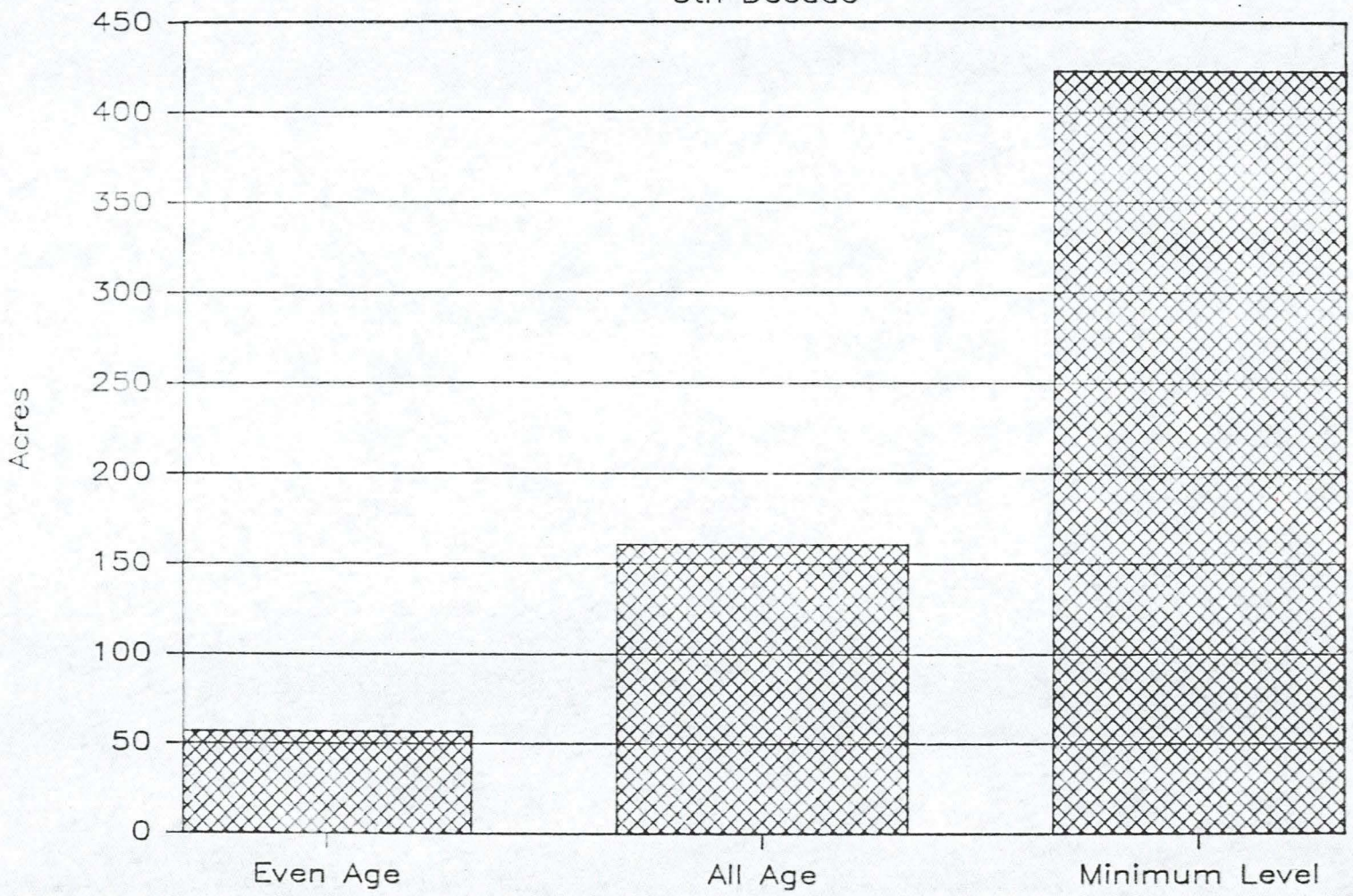


Figure 21

represents management direction by practice in the 5th decade. Most of the hardwood falls in the 81-100 age class which would begin to convey a "big tree" character.

Aspen

The aspen component is gradually moved to a more regulated age class structure. Large stands are broken into more than one age group and by the end of the 5th period each age group is rather evenly represented along he corridor. All of the aspen comes under management and is managed under the clearcut system. The total acreage of aspen remains about the same as 54 acres of jack pine is converted to aspen while 71 acres of aspen are converted to hardwoods and 10 acres are converted to white pine and white spruce. The aspen conversion is an adjustment o the FORPLAN prescription. The aspen stands that are bisected by the Newman Springs cross country ski trail fall into an analysis area type that is converted from aspen to jack pine in the FORPLAN prescriptions. This was considered not suited to the intended objective and a prescription to convert the aspen to northern hardwoods was substituted. A portion of one stand was prescribed for conversion to white pine, white spruce and hemlock. Another alternative for these stands within the Newman Springs area would be to convert a greater portion to white pine, white spruce or to manage under a minimal level, non timber management regime. Reference Chart 22 for a representation to the existing condition and Chart 23 for the expected 5th decade age class distribution.

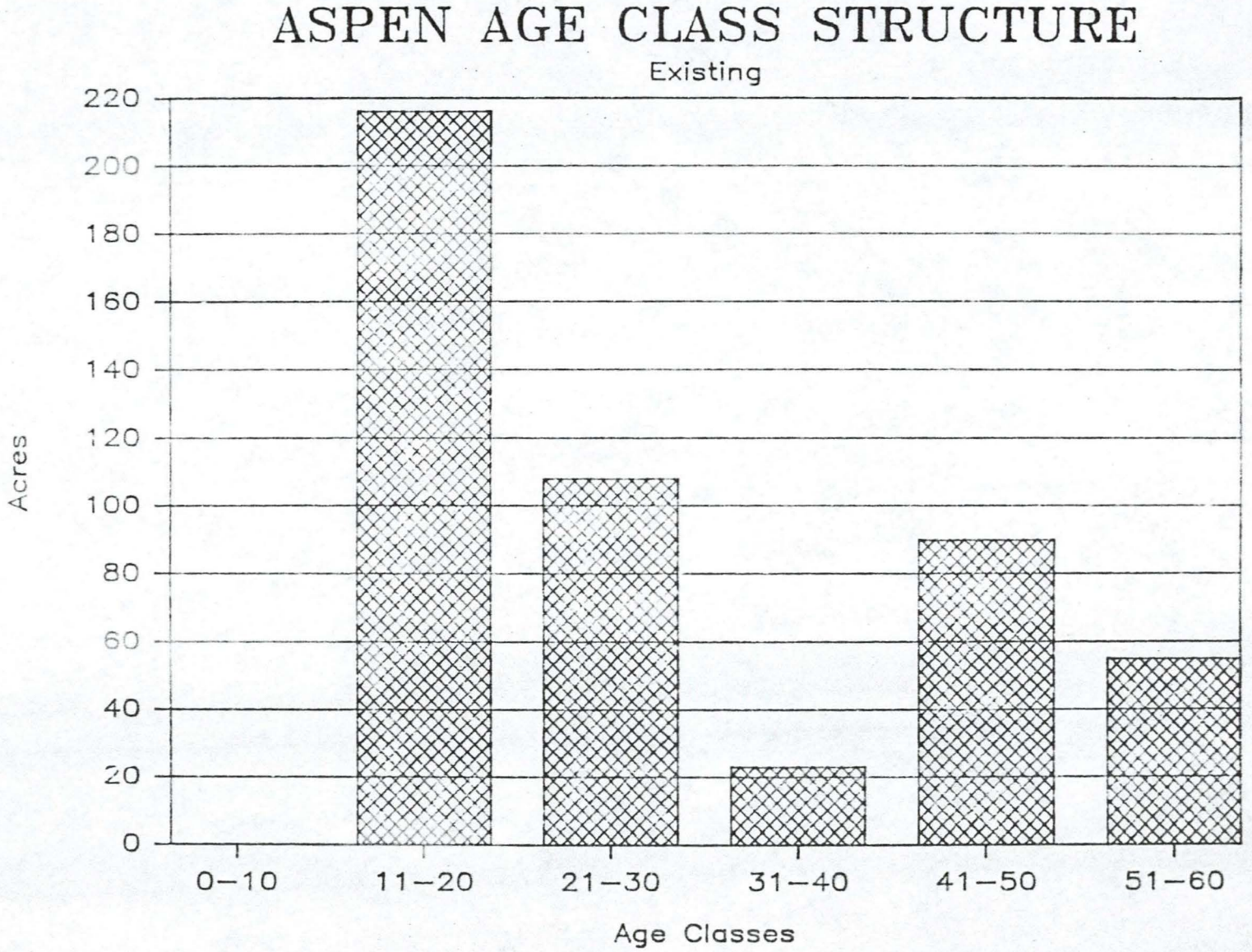

ASPEN AGE CLASS STRUCTURE
Existing
220
200
180
160
140
120
100
80
60
40
20
0
Acres
0–10
11–20
21–30
31–40
41–50
51–60
Age Classes

Figure 22

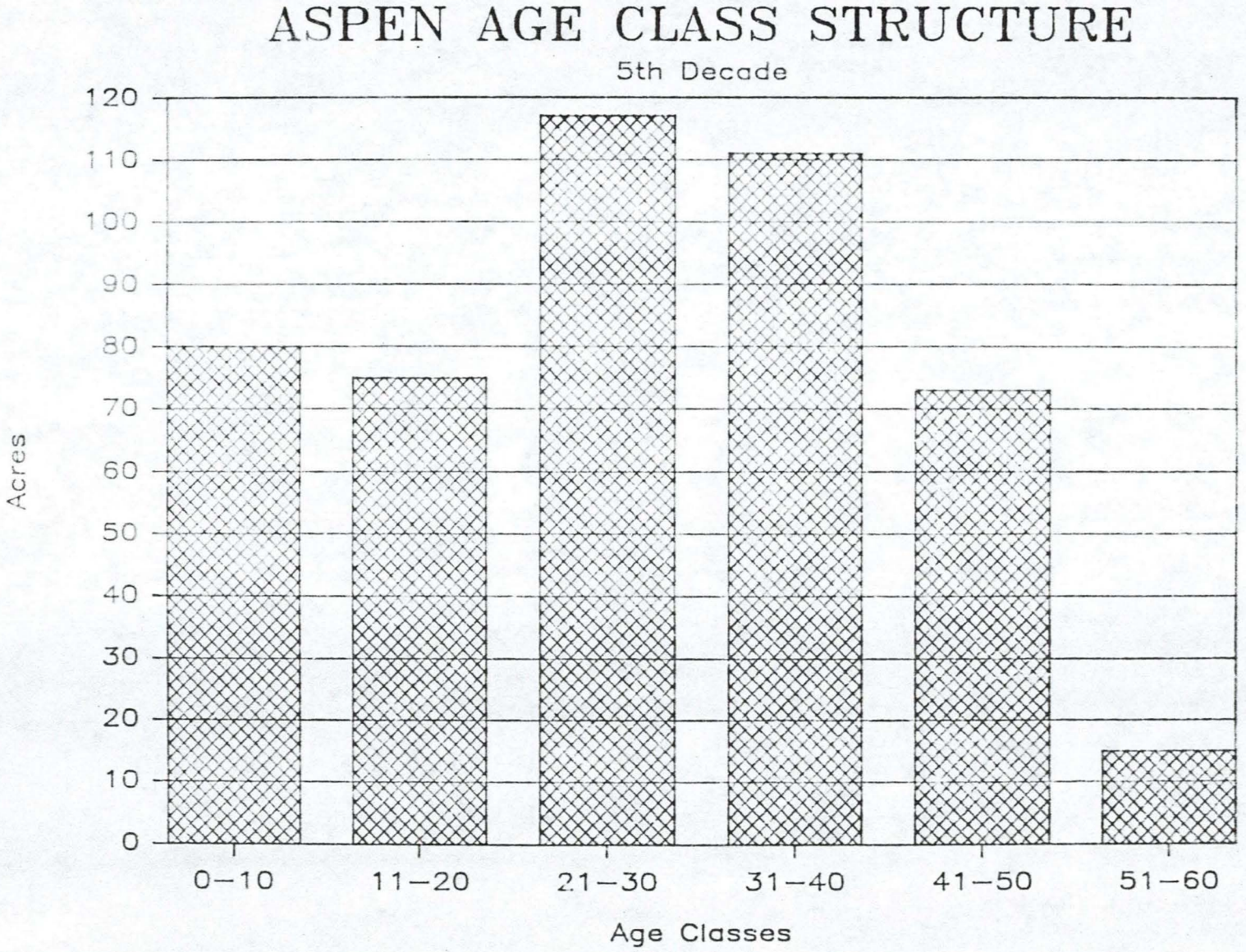

ASPEN AGE CLASS STRUCTURE
5th Decade
120
110
100
90
80
70
60
50
40
30
20
10
0
Acres
0–10
11–20
21–30
31–40
41–50
51–60
Age Classes

Figure 23

Red Pine

All red pine is actively managed and selectively thinned, generally at 10 year intervals. The red pine in many areas is carried to an extended rotation of 120+ years up to 200 years. This represents a modification of the FORPLAN prescriptions in order to achieve and maintain over time a "big tree" character. Rotation of all red pine in the foreground should be by underplanting and thinning the overstory. Selective old growth red pine overstory should remain until the understory plantings are well established, 10 to 20 years of age. As the planted understory of red pine grows and needs more light requirements, the overstory will need to be continually selectively thinned. A minimum of 100 acres of red pine is to be converted to white pine using the same underplanting system except the thinning of the overstory will be less severe in order to provide the necessary shade shelter for the white pine. Conversion of red pine to white pine should begin around the age of 80 to 100. The amount of white pine conversion will again depend upon the availability of disease resistant planting stock, but it is anticipated that within 40 years such stock should be readily available. The overall amount of red pine increases significantly from 509 acres up 320 acres to 829 acres as a result of conversion of jack pine to red pine. The result at the end of the 5th decade reflects a wider age class range than what presently exists. A large portion of the red pine at the end of the 5th decade will

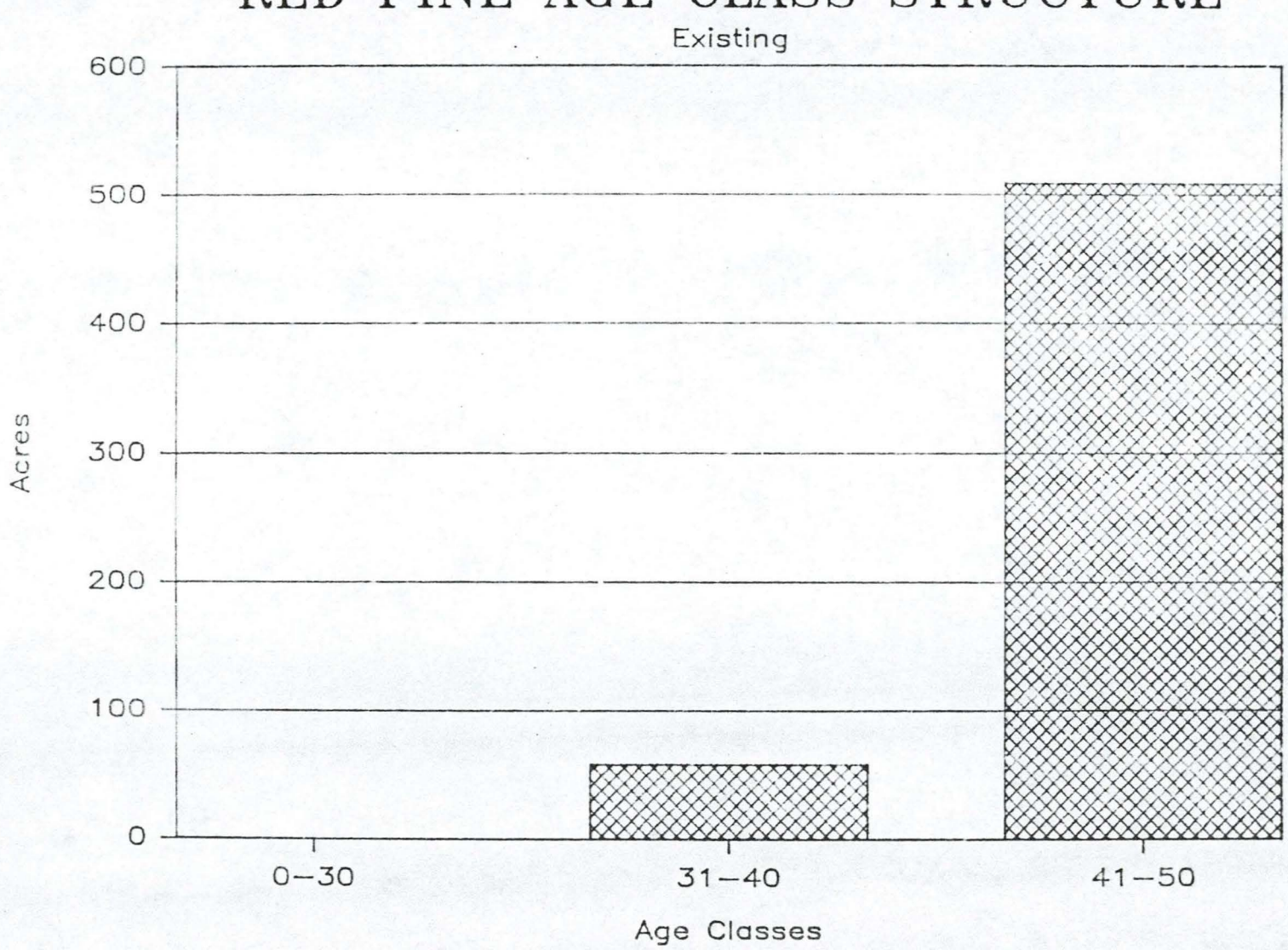

RED PINE AGE CLASS STRUCTURE
Existing
600
500
400
300
200
100
0
Acres
0—30
31—40
41—50
Age Classes

Figure 24

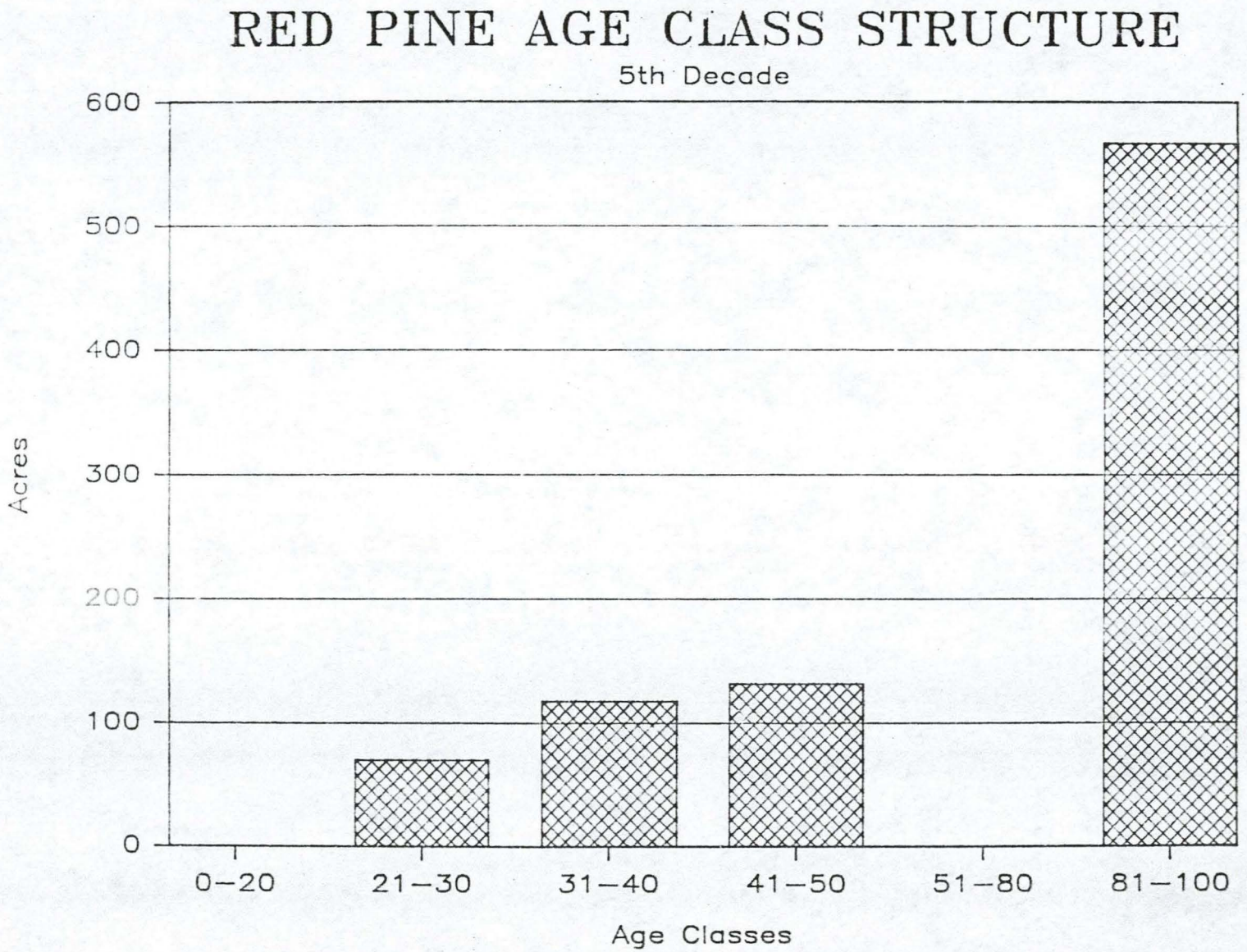

RED PINE AGE CLASS STRUCTURE
5th Decade
600
500
400
300
200
100
0
Acres
0–20
21–30
31–40
41–50
51–80
81–100
Age Classes

Figure 25

convey a big tree character as 57 percent will fall in the 90-100 year age class. Red pine will occur in the younger age classes as a result of jack pine conversions. The red pine will have a clean orderly appearance as a result of repeated thinnings, use of a random thinning pattern in the foreground will reduce the row-like effect of plantations. Refer to Chart 24 for the existing age-class condition and Chart 25 for the condition at the end of the 5th decade. The wider distribution of age classes is the result of jack pine conversions to red pine while the large amount that occurs in the 81-100 age class as a result of allowing the red pine to mature. The character conveyed by this age class would be a dominant "big tree" character.

Jack Pine

The jack pine component is eliminated along the corridor by prescriptions which harvest and convert the stands. The majority of the jack pine is converted to red pine. The conversions to red pine create a wide age distribution in the red pine type and introduce a long-lived species in place of the jack pine. A small amount is converted to aspen and two small areas with a red pine mixture is prescribed for a white pine conversion. The white pine/white spruce conversion will depend upon if sufficient overstory of red pine remains, after the jack pine removal, to provide the necessary shelter. Chart 26 shows the existing jack pine situation and Chart 27 shows the conversion to other types.

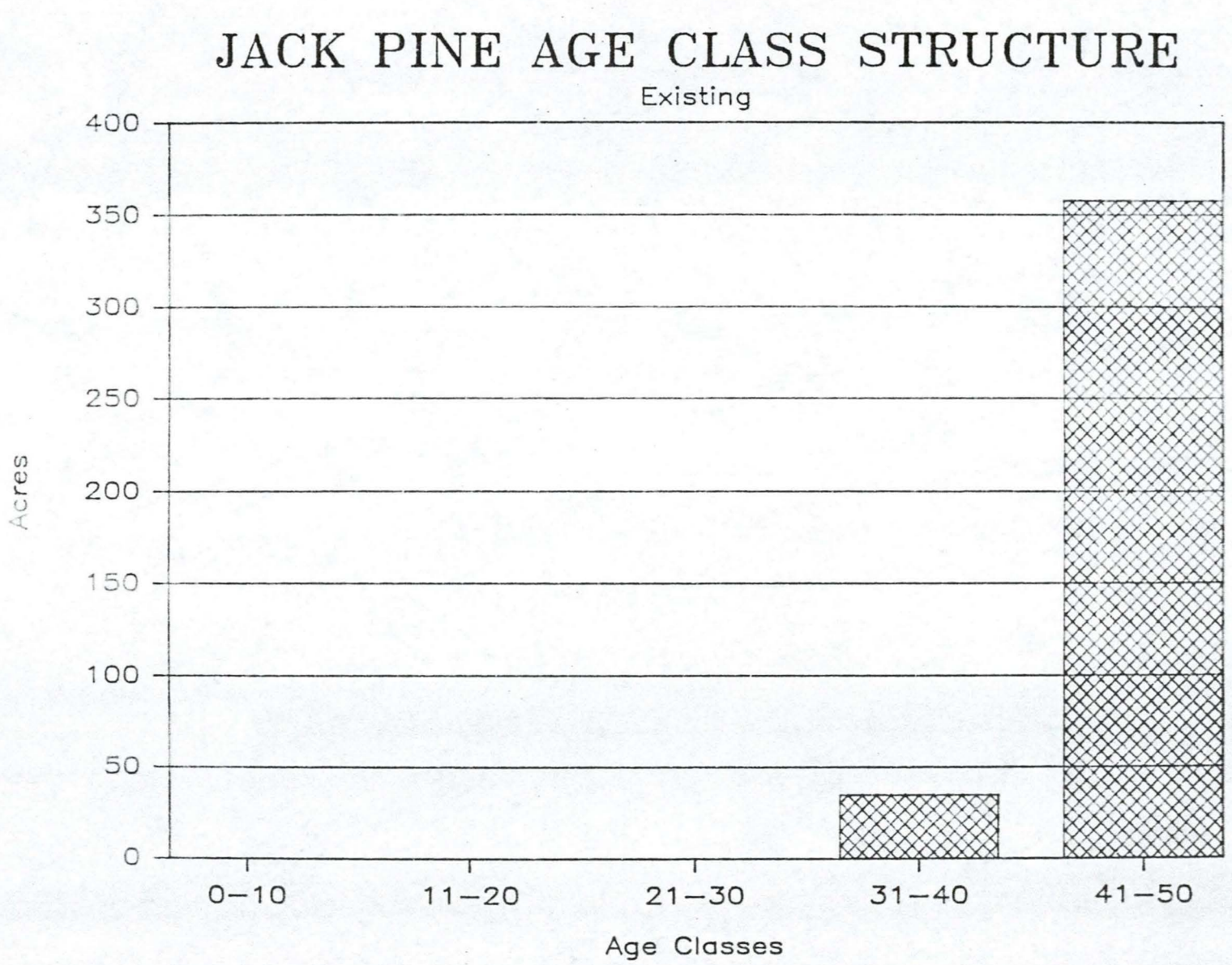

JACK PINE AGE CLASS STRUCTURE
Existing
400
350
300
250
200
150
100
50
0
Acres
0—10
11—20
21—30
31—40
41—50
Age Classes

Figure 26

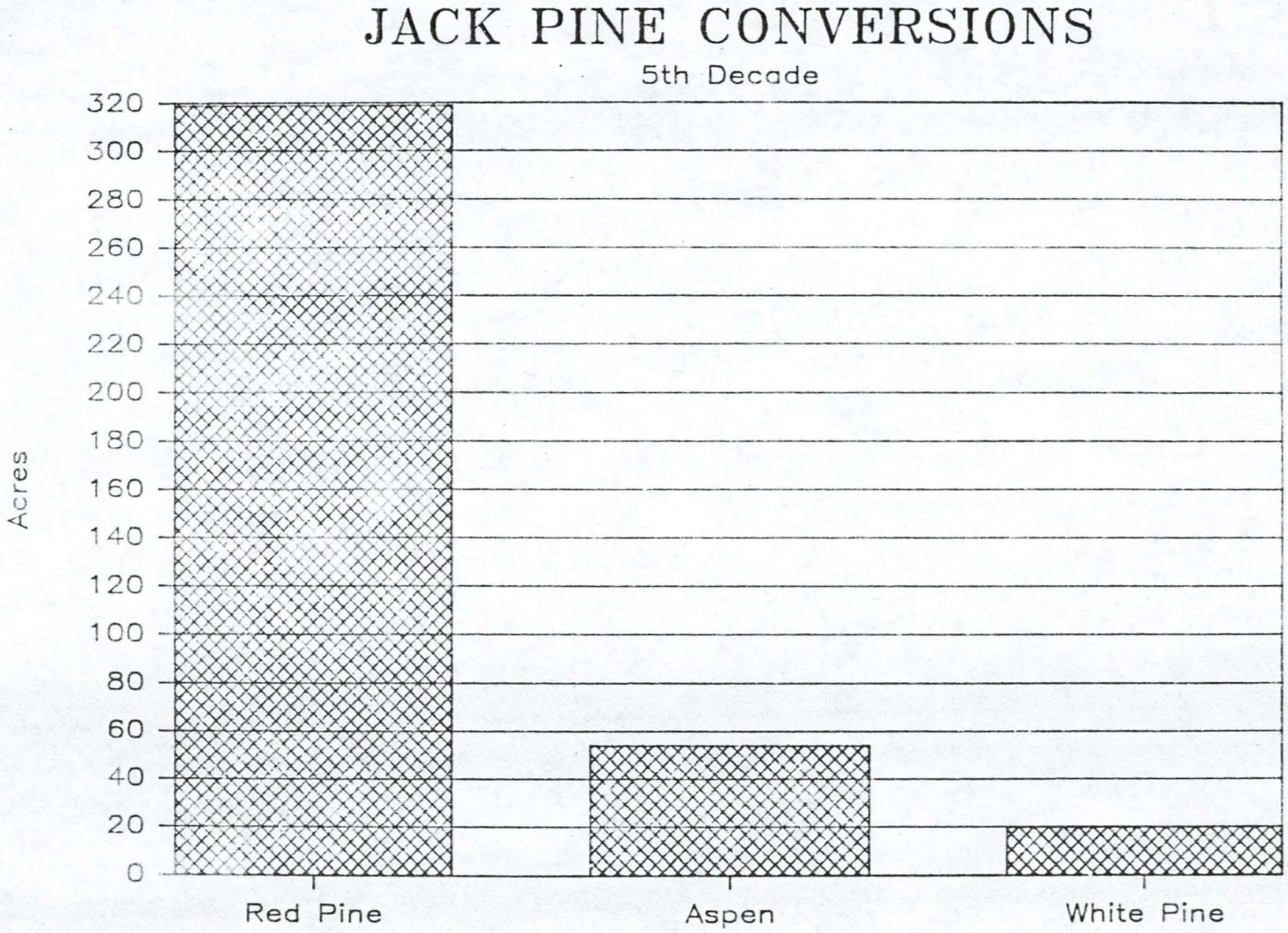

JACK PINE CONVERSIONS
5th Decade
Acres
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Red Pine
Aspen
White Pine

Figure 27

Minor Types

The minor forest types that occur infrequently along the corridor are maintained to provide diversity. The cedar, mixed swamp conifer, black spruce and tamarack are prescribed for minimal or non-timber management. Most of the balsam fir type is maintained by a shelterwood system.

Openings

The visual variety of the corridor can be enhanced by insuring that views to the natural openings and lowlands are kept open. This often consists of removing a narrow band of roadside vegetation that screens the views of the openings. These tasks may be well suited as small projects of hand clearing by manpower and human resource programs.

3. Individual Stand Prescriptions

The following are individual stand prescriptions, the prescription sheets are organized by compartments and management areas. In situations where the prescription is a modification of a FORPLAN prescription, it is noted by an asterisk in the "Special Treatment" column.

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 24
MANAGEMENT AREA 011

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
3	91	9	19	Maintain type	8		5th	6
5	91	5	19	Maintain type	4		5th	6
6	91	19	59	Maintain type - leave hardwood islands adjacent F.R. 1130	4		1st	20
14	91	43	24	Maintain type, create 2 age classes and coordinate harvest with Stand 5, Compartment 27	4	Create 2 age classes	2nd 3rd	13

*An asterisk in the Special Treatment column signifies a modification of the FORPLAN prescription.

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 26
MANAGEMENT AREA 011

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
5	11	31	47	Maintain type via shelterwood, not in immediate foreground	1, 4		3rd	59
6	91	21	58	Contiguous to Stand 8, total 83 acres. Type out hardwood inclusion in SW corner and combine with inclusion in Stand 8. Maintain aspen in rest of stand and change to 2 age classes.	4	Hardwood inclusion, 2 age classes	2nd, 3rd*	10
8	91	62	47	Contiguous to Stand 6. Type out hardwood adjacent Forest sign. Create 2 age classes with Stand 6. Relate cutting pattern and change of stand boundaries to Stand 6.	4	Hardwood inclusion, 2 age classes	2nd, 3rd	16
9	14	12	78	Minimum level management	8			81

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 27
MANAGEMENT AREA 011

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
05	91	523	15	Large stand, initiate early cut to break up stand into 3 age groups. 25% of stand available for minimum level management. Stand is contiguous to 91 type Stands 3 and 14 in Compartment 24.	4	3 age classes	3rd, 4th, 5th*	16

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 35
MANAGEMENT AREA 021

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
1	91	10	22	Maintain type, clearcut	9		3	13
2	01	37	48	Clearcut and convert to red pine, create 2 to 3 age groups	9		1, 2, 3	51
3	01	15	48	Clearcut, convert to red pine, maintain hardwood inclusion	9		1	51
4	15	5	55	Minimum level management	9			81
5	02	228	47	Red pine management, break up rotation periods to break stand into age classes	9			48
16	02	47	47	Manage for big tree character in foreground Eventual (Age 90+) conversion by shelterwood to white pine	9	White pine conversion*		48
17	18	24	51	Minimum level management	9			57
27	11	23	50	Mixed stand. Shelterwood west portion removing aspen and balsam, minimum level central portion around esker, clearcut eastern portion	9	As noted*	1st	59

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 36
MANAGEMENT AREA 021

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
1	01	103	44	Hold over red pine component in foreground and underplant white pine after jack pine removal if sufficient overstory remains. Convert remaining stand to red pine in 2 or 3 age groups.	9	White pine conversion*	2nd, 3rd	52
3	82	17	54	Minimum level management, big tree character	9			32
4	12	19	56	Minimum level management	9			80
6	82	12	54	Minimum level management, big tree character.	9			32
11	82	5	54	Minimum level management	9			32
12	82	8	53	Even age shelterwood - group selection or modified shelterwood	9			29

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 37
MANAGEMENT AREA 021

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
7	02	272	45	Manage for big tree character, extend rotation 120+ years in immediate foreground of northern section. Convert 30 acres to white pine.	10	Big tree character*		48
9	85	37	46	Big tree character desired - minimum level management	10			32
11	82	37	45	Even age management, shelterwood	1,10			29
12	02	13	45	Red pine management, thin as needed	10			48
16	91	36	14	Mixed balsam fir and hardwoods with aspen. Maintain species mix. Evaluate as stand ages.	10			6

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 39
MANAGEMENT AREA 021

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
1	02	21	45	Big tree character in foreground. Extend rotation age 120+ years.	9	*		48
4	85	80	48	Minimum level management	9			33
6	12	32	40	Minimum level management	8			80
7	01	53	48	Clearcut convert to red pine. Create 2 aged stand by harvesting over 2 time periods.	9		1, 2	51
11	18	65	60	Minimum level management	8			57
15	82	12	49	Shelterwood, even age northern hardwood management. Stand not in immediate foreground.	9			29
16	02	20	45	Maintain white pine and aspen inclusions. Manage red pine. Large tree character objective in foreground.	9			48
17	11	65	46	Maintain hemlock, white pine, and cedar inclusions. Clearcut and maintain aspen.	9	Maintain inclusions	2nd	13
21	82	35	41	Minimum level management	9			32
27	14	73	66	Minimum level management	8			80

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 41
MANAGEMENT AREA 013

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
1	02	68	48	Thin as needed extend rotation age and manage for big tree character on 20 acre portion east of F.R. 149. Convert 20 acres to white pine by shelterwood and underplanting.	9	Big tree management*		48
3	91	23	40	Maintain aspen, not in immediate foreground			3rd	13
12	82	69	47	Minimum level management	9			32
13	01	81	47	Convert to red pine. Create 2 age groups as contiguous jack jack pine is in excess of 40 acres.	9	2 age groups*	1st, 2nd	52
14	91	15	54	Minimum level management	9			10
25	01	34	48	Clearcut, convert to red pine and aspen, 2 age groups	9	2 age groups	1st	52
26	01	23	48	Clearcut, convert to red pine	9		1st, 2nd	52
27	85	42	48	Big tree character desired. Use all age selection system or manage under minimum level. 1/	9	Big tree character		32
28	85	29	48	Minimum level treatment - not in immediate foreground	9			32

1/ FORPLAN prescription

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 42
MANAGEMENT AREA 013

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
17	02	58	35	Mixed stand, manage as three separate stands. Manage 5-10 acres of existing red pine. Manage 8-10 acres foreground for conversion to white pine and hemlock - thin and plant. Clearcut remaining jack pine and regenerate to red pine.	8	Special conversion, 3 stand types*	2nd, 3rd	48
27	91	28	45	Maintain type	9		3rd	13
31	91	46	18	Ski trail bisects portion, convert esker trail to white pine, white spruce, underplant and selective overstory removal FORPLAN prescription inappropriate. 1/ Convert 10 acres to white pine/ white spruce.	9	Conversion*	2nd	6

1/ FORPLAN converts to jack pine

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 43
MANAGEMENT AREA 013

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
3	91	33	28	Ski trail bisects stand. Convert to mid-tolerant and tolerant hardwoods. Group selection and individual tree selection, manage some areas for aspen. 1/	10	Conversion to long-lived species*	2nd	16
45	91	4	28	Ski trail bisects stand, underplant and convert to long lived species (hemlock, white and red pine, white spruce). Consider minimum level alternative.	10	Conversion to long-lived species*	2nd	16
46	91	18	28	Same situation as Stand 3. 1/	10	Conversion to long-lived species*	2nd	16
47	82	19	48	Minimum level management	10			32
7	82	55	55	Minimum level management	10			

1/ Swapping acres of Analysis Area #16 with #13 would allow aspen to hardwood conversion.

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 88
MANAGEMENT AREA 031

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
1	85	21	50	Big tree character desired. Manage for all age northern hardwood.	10	Big tree character		29
2	01	34	48	Convert to aspen	9		1st	51
5	01	9	46	Convert to red pine 1/	9	Conversion*	2nd	52
6	85	32	61	All age management, sugar maple/ northern hardwoods objective	9			32
11	85	12	48	Big tree character desired. All age management	9	Big tree character		32
22	81	25	50	Same as Stand 1	9	Big tree character		32

1/ FORPLAN converts to aspen

HIGHWAY 182 STAND PRESCRIPTIONS

COMPARTMENT 89
MANAGEMENT AREA 021

Stand	Type	Acres	Age	Prescriptions and Remarks	LTA	Special Treatment	Harvest Entry (decade)	Analysis Area
1	82	24	62	Big tree character - Borders Patterson Lake Minimum level management	9			32
3	01	35	34	Carry existing red pine to extended age, clearcut jack pine convert to red pine. Introduce white pine in fore-ground if sufficient red pine overstory remains.	9	Partial white pine conversion*	1st	163
5	02	288	47	Harvest and convert to aspen. Break up stand size by harvesting over time periods. Not in im-mediate foreground.	9		5th, 6th, 7th	49
19	82	71	58	Minimum level management	10			32

4. Implementation

The implementation segment of the Draft Chequamegon National Forest Land and Resource Management Plan is not yet completed and will be consolidated into the final document. This implementation portion will address site specific management for the next decade. When developing the implementation plan for the management areas impacted by the viewshed corridor (011, 013, 021, 031) the preceding prescription summaries and individual stand prescriptions should be utilized. Any multi-year timber sale plan developed in addition to the implementation plan should incorporate the recommendations and prescriptions of this study.

To insure integration of this study's recommendations, a copy of each prescription sheet will be placed in each applicable compartment folder. Additional copies of Chapter V, Section C-3, will be provided to the Park Falls Ranger District for inclusion in the compartment folders.

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Appendices

A Variety Class Criteria for Superior Uplands Character Type

B Distance Zone Criteria

C TMIS Report 2400-41

D Timber Stand Data Summary by Type

E Timber Sale Schedule, 1st Decade - Forest Plan

F Glossary

Appendix A
VARIETY CLASS CRITERIA FOR SUPERIOR UPLANDS CHARACTER TYPE

	Class A Distinctive	Class B Common	Class C Minimal
LAND FORM	Steep, rolling terrain with relief between 100 and 600 feet. The terrain is dissected with strong edge contrasts and variety.	Rolling hills and moderate dissection. Edge contrasts and definition are moderate.	Uniformly rolling terrain. Weak edge contrasts and definition. Little variety.
ROCK FORM	Features tend to dominate the visual field.	Features are subordinate to the visual field.	Few or no features.
VEGETATION	Highly varied vegetative patterns with diverse color and texture. Forest openings and patches of vegetation are sharply defined.	Moderately varied vegetative patterns with some diversity in color and texture. Vegetative patterns are weakly defined.	Uniform vegetative pattern. Little variation in color and texture. Vegetative cover edge contrast tends to be minimal in relation to the visual field.
LAKES STREAMS	Lakes with unusual shorelines, water clarity, and islands. Rivers and streams with waterfalls, rapids, and large flow volumes. Wetlands and bogs with numerous islands and irregular shorelines.	Moderately sized lakes with some irregular shorelines, streams and wetlands.	Small lakes with little variety in shoreline, streams, and wetlands.
CULTURAL	Cultural features, farms, pastures, and structures dominate the landscape, are very complementary, and add a high degree of visual variety.	Cultural features are weakly defined and do not add to the variety of the landscape.	Some cultural features add some variety to the landscape but tend to blend into the landscape scene.

Appendix B
DISTANCE ZONE CODES

	Foreground	Middleground	Background
Distance	0-1/4-1/2 mile	1/4-1/2 - 3-5 miles	3-5 miles - infinity
Sight capacity	Detail	Detail and general	General - no detail
Visual characteristics	Individual plants and species	Textures (conifers and hardwoods)	Patterns (light and dark)

Foreground Characteristics

* Presence - the observer is in it.
* Maximum discernment of detail - in proportion to time and speed.
* Scale - observer can feel a size relationship with the elements.
* Discernment of color - intensity and value seen in maximum contrast.
* Discernment of other sensory experiences - sound, smell, and touch are most acute here.
* Discernment of wind motion.
* Aerial perspective absent.

Middleground Characteristics

* Linkage between fore- and background parts of the landscape.
* Emergence of overall shapes and patterns.
* Visual simplification of vegetative surfaces into textures.
* Presence of aerial perspective - softens color contrast.
* Discernment of relation between landscape units.

Background Characteristics

* Simplification - outline shapes, little texture or detail apparent, objects viewed mostly as patterns of light and dark.
* Strong discernment of aerial perspective - reduces color distinction and replaces them with values of blue and gray.
* Discernment of entire landscape units - drainage patterns, vegetative patterns, landforms.
* Individual visual impacts least apparent.

CHEQUAMEGON NATIONAL FOREST
PRESCRIPTION FORM

EXAM DATE 1983 04/30/84

DISTRICT 1 COMP 27 STAND 5 TYPE 91 LUC 500 SIZE DENSITY 26 ACRES 523

STD COND 5 AGE 32 AVG DIA 6 P SP 746 P SI 80 M SP M SI

SPECIES	(NAME)	TOTAL BA	PERCENT BA	RESIDUAL BA	CCF PER ACRE	CCF PER STAND
012	BALSAM FIR	14	....	14	2.78	1453.94
375	PAPER BIRCH	7	....	7	1.34	700.82
746	QUAKING ASPEN	72	....	72	13.21	6908.83
	TOTAL	93	100%	TOTAL 93	TOTAL 17.33	TOTAL 9063.59

UNDERSTORY .....

WATER TABLE & SOIL .....

INSECT & DISEASE TYPE AGENT SEVERITY .....

CUT PRESCRIPTION .....

.....

CULTURAL PRESCRIPTION .....

.....

COORDINATION REQ'D .....

TRANSPORTATION .....

ECONOMIC FACTORS .....

REMARKS: SCATTERD MATURE ASPEN.

NOTES .....

PREPARED BY..... DATE .....

CERT. SILV. ..... DATE .....

CHEQ 2400-41

APPENDIX C

Appendix D
SUMMARY: COMPARTMENT AND STAND DATA BY FOREST TYPE

Type - Northern Hardwoods (81, 82, 85)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
36	3	54	17	021	32
36	6	54	12	021	32
36	11	54	5	021	32
36	12	53	8	021	29
37	8	45	7	021	32
37	9	46	37	021	32
37	11	45	37	021	29
39	4	48	80/30*	021	33
39	15	49	12	021	29
39	21	41	35	021	32
41	12	47	69/40*	013	32
41	27	48	42	013	32
41	28	48	29	013	32
43	7	47	55	021	32
43	47	48	19	013	32
88	1	50	21	031	29
88	6	61	32	031	32
88	11	48	12	031	32
88	22	50	25	031	32
89	1	62	24	021	32
89	19	58	71	021	32

Total Acres: 570

* Acres adjusted to reflect acreage within corridor.

Type - Aspen (91)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
24	3	19	9	011	6
24	5	19	5	011	6
24	6	59	19	011	20
24	14	24	43	011	13
26	6	58	21	011	10
26	8	47	62	011	16
27	5	15	523/120*	011	16
35	1	22	10	021	13
37	16	14	36	021	6
41	3	40	23	013	13
41	14	54	15	013	10
42	27	45	28	013	13
42	31	18	46	013	1
43	3	28	33	013	16
43	45	28	4	013	16
43	46	28	18	013	16

Total Acres: 492

* Acres adjusted to reflect acreage within corridor boundary.

Type - Red Pine (02)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
35	5	47	228/80*	021	48
35	16	47	47	021	48
37	2	45	272/160*	021	48
37	12	45	13	021	48
39	1	45	21	021	48
39	16	45	20	021	48
41	1	48	68	013	48
42	2	35	58	013	48
89	5	47	288/100*	021	49

Total Acres: 567

* Acres adjusted to reflect acreage within corridor.

Type - Jack Pine (01)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
35	2	48	37	021	51
35	3	48	15	021	51
36	1	44	103	021	52
39	7	48	53	021	51
41	13	47	81/50*	013	52
41	25	48	34	013	52
41	26	48	23	013	52
88	2	48	34	031	51
88	5	46	9	031	52
89	3	34	35	021	163

Total Acres: 393

* Acres adjusted to reflect acreage within corridor boundary.

Lowland Brush, Bogs, Openings

Compartment	Stand	Acres
24	4	36
24	9	50
26	3	20
26	7	3
27	14	16
27	15	36
35	23	6
35	13	8
37	10	40
39	3	8
39	34	13
39	35	25
42	28	25
43	2	15
43	9	10
43	43	35
	Total Acres:	345

Type - Balsam Fir (11)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
26	5	45	31	011	59
35	27	50	23	021	59
39	17	44	65	021	59

Total Acres: 119

Type - Mixed Swamp Conifer (18)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
35	17	50	24	021	57
39	11	60	65	021	62
43	22	43	10	013	

Total Acres: 119

Type - Cedar (14)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
26	9	97	12	011	81
39	27	58	63	021	80

Total Acres: 75

Type - Black Spruce (12)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
36	4	58	19	021	80
39	6	49	32	021	80

Total Acres: 51

Type - Tamarack (15)

Compartment	Stand	Age	Acres	Management Area	Analysis Area
35	4	55	5	021	81

Total Acres: 5

Appendix E
FIRST DECADE, TIMBER SALE SCHEDULES BY MANAGEMENT AREA

Project or Output			Management Area			
Name	MIH	Units	011	013	021	031
Total Area in MA		Acres	50,640	11,692	13,568	16,889
Harvest Volume (Total)		MBF	27,186	5,296	24,987	11,424
-Softwood Sawtimber	X06	MBF	3,056	697	4,774	1,777
-Softwood Pulpwood	X07	MBF	7,913	1,855	16,680	4,013
-Hardwood Sawtimber	X09	MBF	1,118		27	421
-Aspen Sawtimber	X09A	MBF	3,737	751	772	680
-Hardwood Pulpwood	X10	MBF	2,089		646	3,197
-Aspen Pulpwood	X10A	MBF	9,273	1,994	2,089	1,336
Sale Prep (Total)	E06A	Acres	2,882	554	2,786	1,162
-Thinning		Acres	722	137	1,911	465
		MBF	5,503	1,016	14,740	3,774
-Clearcut		Acres	1,626	291	742	684
		MBF	17,849	3,367	9,272	7,559
-Regen. Shelter & Site Prep	/449C	Acres	534	126	132	
		MBF	3,840	907	975	
-Selection		Acres				13
		MBF				97
Site Prep & Hand Plant	447/443	Acres	148	23	209	97
Plant Concur with Site Prep	444	Acres		23	104	
Site Prep Nat Reg-Aspen	449A	Acres	1,410	245	429	586
Total Release	451	Acres	56	15	69	
Min Level Management		Acres	22,292	5,941	6,252	10,441

DEFINITIONS

Analysis Area - One or more sites combined for the purpose of analysis in formulating alternatives and estimated various impacts and affects.

Big Tree Character - A visual condition achieved by the forest types of northern hardwoods, red pine, white spruce, and white pine when they achieve a trunk diameter of 18 inches or greater.

Clearcutting - A regeneration method used to establish even-age stands whereby all trees are removed in one harvest.

Compartment - A management unit that is the result of an aggregation of contiguous timber sands, usually 1,000+ acres in total size.

DBH - Diameter at Breast Height (4.5 feet).

ECS - Ecological Classification System - A hierarchical framework for dividing ecosystems into relatively uniform units, which can be mapped, described and interpreted in terms of forest resource capability and response to management.

Even-Aged Management - The actions that will result in forest, crop, or stand composed of trees having no or relatively small differences in age.

Forest Plan - A long-range plan for management of a designated area of National Forest System lands. This plan will provide management direction for all management programs and practices, resource uses, and resource protection measures on these lands.

Forest Type - Vegetative Type - A descriptive term used to group stands of similar character of developed and species composition, due to given ecological factors, by which they may be differentiated from other groups of stands.

FORPLAN - A specific linear program model designed for use in Forest Service planning.

Harvest (Timber Harvest) - Cutting and removal of trees from the forest for utilization.

LTA - Land Type Association - A specific hierarchical level in the ECS. An association that occurs in a predictable pattern and units are defined in consideration of soil, geology, landform, water, natural vegetation and climate characteristics.

Management Area - An area that has common direction to achieve a common goal throughout that differs from neighboring areas. The entire Forest is divided into management areas. Each is described, and policies and prescriptions relating to their use are listed.

Management Goal - A concise statement that describes a desired condition of the land to be achieved sometime in the future.

Minimum Level Management - The management strategy that would meet only the basic statutory requirements of administering unavoidable nondiscretionary land uses, preventing damage to adjoining lands of other ownerships, and protecting the life, health, and safety of incidental users.

Plantation - A Forest crop or stand raised artificially, either by seeding or planting of young trees.

Recreation Opportunity Spectrum (ROS) - A system of classifying the range of recreational experiences, opportunities and settings available on a given area of land. Classifications include:

Primitive (P)
Semi-Primitive, Motorized (SPM)
Semi-Primitive, Non-Motorized (SPNM)
Roaded Natural (RN)
Rural (R)
Urban (U)

Regeneration - (1) The actual seeding and saplings existing in a stand. (2) The act of establishing young trees naturally or artificially.

Resource Management Prescriptions - Written direction on the resource management practices selected and scheduled for application on a specific area to attain goals and objectives.

Selection Harvest Cut - A system which removes trees individually in a scattered pattern from a large area each year. (1) Individual tree selection cutting involves the removal of selected trees of all size classes on an individual basis. Regeneration is established under the partial shade of the overstory canopy after each cut.
(2) Group selection cutting involves the removal of selected trees of all size classes and groups of a fraction of an acre of to 2 to 3 acres in size. Regeneration occurs in the groups under conditions similar to those found in small clearcuts.

Shelterwood Cutting - A cutting method used in even-aged management. It is the removal of a stand of trees through a series of cuttings designed to establish a new crop with seed and protection provided by a portion of the stands.

Stand (Tree Stand) - An aggregation of trees occupying a specific area and sufficiently uniform in composition, age arrangement, and condition as to be distinguishable from the forest on adjoining areas.

Thinning - Cutting made in an immature crop or stand, primarily to accelerate the diameter increment (annual growth) of the residual trees, but also by suitable selection, to improve the average form of the trees that remain.

TMIS - Timber Management Information System - A computer based data and information system that is used for managing the timber resource.

Uneven-Aged Management - The course of actions involved in maintaining a forest or stand composed of intermingling trees that differ markedly in age.

VQO - Visual Quality Objective - Objectives that represent degrees of acceptable alteration of the natural landscape.